The Future of Digital Terrestrial Television

The Case for Retaining Flexibility into the 2040s and Beyond

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Executive Summary

- The Government is aiming to come to a decision early in 2026 regarding the long-term status of the UK's digital terrestrial TV network ('DTT'), known as Freeview
- In its guidance to the Department for Culture, Media and Sport ('DCMS'), media regulator Ofcom set out three options: keep the current system (refreshing the network where needed); create a slimmed-down DTT network, with or without setting a switch-off date; or set a date now by which time the whole of the DTT network is switched off, in favour of Internet Protocol TV ('IPTV')
- The urgency to decide is driven by the impact of shifting consumer behaviour and evolving technology – less linear TV is being consumed, and more content is being delivered via IP – and by the need for certainty on long-term investment decisions around critical national infrastructure
- The Public Service Broadcasters ('PSBs'), in particular, are concerned that they must continue to pay the costs of broadcast even as their IP distribution expenditure increases alongside
- Meanwhile, many analysts promote the advantages for the wider UK economy of switching to an all-IPTV future
- It is undoubtedly the case that there is value in continuing to support the development of online delivery of services across sectors: IP connectivity can improve economic outcomes and confer better consumer access to jobs, benefits and services; however, that is not the same as saying that a migration to IPTV from broadcast, in and of itself, unlocks these upsides (even if it assists in promoting broadband to those yet to take it up)
- Still, there is little doubt about the direction of travel toward an eventual all-IP future in the media space; the question is when, at what cost and with what impact?

Impact of an early switch-off of DTT

- Some have suggested a switch-off as early as the mid-2030s, coinciding with the end of current ITV, Channel 4 and Channel 5 PSB licences in 2034 (the BBC's Royal Charter is set for renewal from the end of 2027)
- An early move to end DTT risks alienating some UK households (particularly those less likely to be able or willing to commit to using IPTV without financial or other assistance) and unnecessarily threatens the PSB compact under which the licence fee-funded BBC and the commercial PSBs, in return for access to DTT capacity and regulated prominence on TV platforms, deliver original UK content, reliable news and other services, universally and for free
- Specifically, an early move would incur significant transition costs and generate disbenefits in the interim to the account of the PSBs themselves, as detailed in the present report
- A review of key market dynamics suggests a meaningful number of households will continue to use DTT as their primary means of receiving broadcast and linear TV services on their main sets in 2034 (c5.4m households) and even as late as 2045 (2.9m households); this includes households with connected TVs being used for non-broadcast consumption (e.g., iPlayer, Netflix)
- In 2045, left to the market, UK households will still consume 79 minutes a day of live and near-live TV content
- If a switch-off was imposed early – for example, in the mid-2030s – minutes of linear viewing that would have been watched as a broadcast would have to be delivered over IP, with significant financial impacts
- Meanwhile, millions of UK viewers would risk losing their preferred means of accessing PSB TV services, fundamentally challenging the justification for the licence fee and the premise of universality (barring an expensive, disruptive transition programme which is unlikely to be popular with viewers if forced on them)
- Moreover, other advantages enjoyed by PSBs would be at risk – e.g., the benefits of controlling the electronic programme guide ('EPG') on Freeview; the cross-promotional value of offering portfolio channels and on-demand content via Freeview and its associated brands (e.g., Freeview Play, Freely)
- For the BBC, the impact of prematurely transitioning away from DTT is significant and acute: an early switch-off risks materially reducing the BBC's reach and share of viewing, and potentially disrupts PSB delivery to

millions of homes (absent an early and expensive transition plan), thereby threatening universality and eroding justification for the universal licence fee – it is also likely to be unpopular and the damage is particularly harsh for older, poorer and more vulnerable citizens, for whom the BBC has been central

- Early switch-off could also threaten the BBC's critical role as trusted, impartial provider of news and current affairs ensuring an informed citizenry, and its crucial support for the creative industries
- For the commercial PSBs, an early switch-off of DTT would deprive ITV, Channel 4 and Channel 5 of £768m in foregone advertising revenues in the 10 years between 2035 and 2045 (before adjusting for inflation); this reflects two dynamics: the loss of the Freeview 'premium' (given the higher PSB viewing share in Freeview homes) and the discount on PSB viewing implied by the far more competitive IPTV environment
- ITV's share of these foregone revenues would be £430m, with C4 at £207m and Five at £138m (assuming current market splits)
- Early switch-off would burden the BBC and the commercial PSBs jointly with incremental cumulative IP costs of £389m between 2035 and 2045 for the delivery of the affected TV viewing via IPTV rather than over broadcast – on current market trends, the BBC's share of these incremental costs over 10 years would be c183m, with ITV at £115m, C4 at £55m and C5 at £37m
- These calculations exclude unquantified but real impacts such as the erosion of PSB control over EPGs and reduced cross-promotion – e.g., from Freeview to associated brands (PSB players, Freely, Freeview Play); also discounted here are the one-off and ongoing costs to consumers (new equipment, broadband connections) and to Government of any transition scheme
- The BBC, too, may find itself disproportionately burdened if transitional costs are met through the licence fee

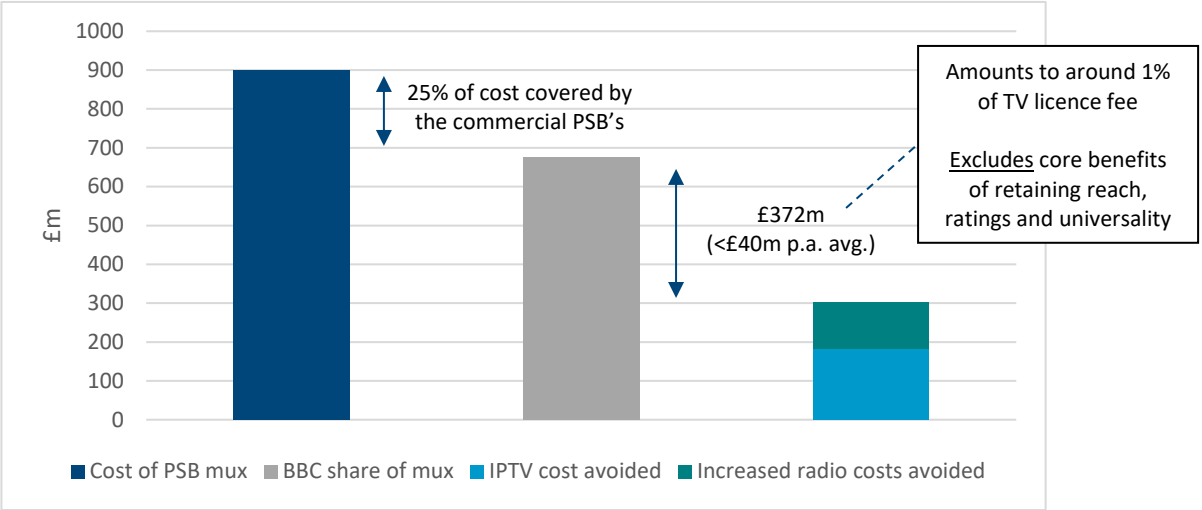
A reconfigured DTT network for the long term: net benefits

- The status-quo DTT network of six national multiplexes appears untenable; the costs of delivering DTT are significantly higher against the value returned compared to the case a decade ago
- By moving from six national multiplexes of TV to three from 2035, and upgrading to a more efficient transmission mode, Freeview can continue to provide an extensive range of high-quality TV channels (and offer all the PSBs and many other channels in high definition) at a reduced cost
- This slimmed-down network might see costs reduced for the PSBs by more than 40% (before inflation) in some scenarios in the period after 2035, ensuring a smoother migration away from reliance on broadcast
- At a lower cost, the PSBs would continue to benefit from the out-performance of Freeview in the declining number of homes using broadcast, thus safeguarding the £768m of otherwise foregone revenues (for the commercial PSBs) and saving the £389m in incremental IP costs (across all PSBs, including the BBC)
- In addition to sharing in these cost savings, the BBC would mitigate reach and ratings declines in any interim period; it would also avoid any unnecessary increase in the costs of broadcast radio provision[1] it would incur if DTT was switched off, given that radio shares many sites and operations with DTT
- Many permutations are available for a post-2035 DTT line-up; in a base case (assuming a more than 40% discount for current levels), the BBC might operate a single PSB mux (which, in this analysis, is assumed could cost around £90m a year) and agree to sub-let, say, 25% of the capacity to ITV, Channel 4 and Channel 5, with two commercial muxes available at market rates
- In this case, the BBC's ongoing DTT costs (less incremental IP delivery charges of £183m and £120m in costs for radio they would otherwise incur) would amount to £372m over 10 years, or around 1% of the current licence fee (£3.8bn) for five services in HD or higher quality using 75% of the PSB mux capacity; it would also have the option of selling any spare capacity to the market

[1] This could amount to a £12m p.a. increase (as indicated in conversations with Arqiva; this figure is included in net cost estimates provided in this report).

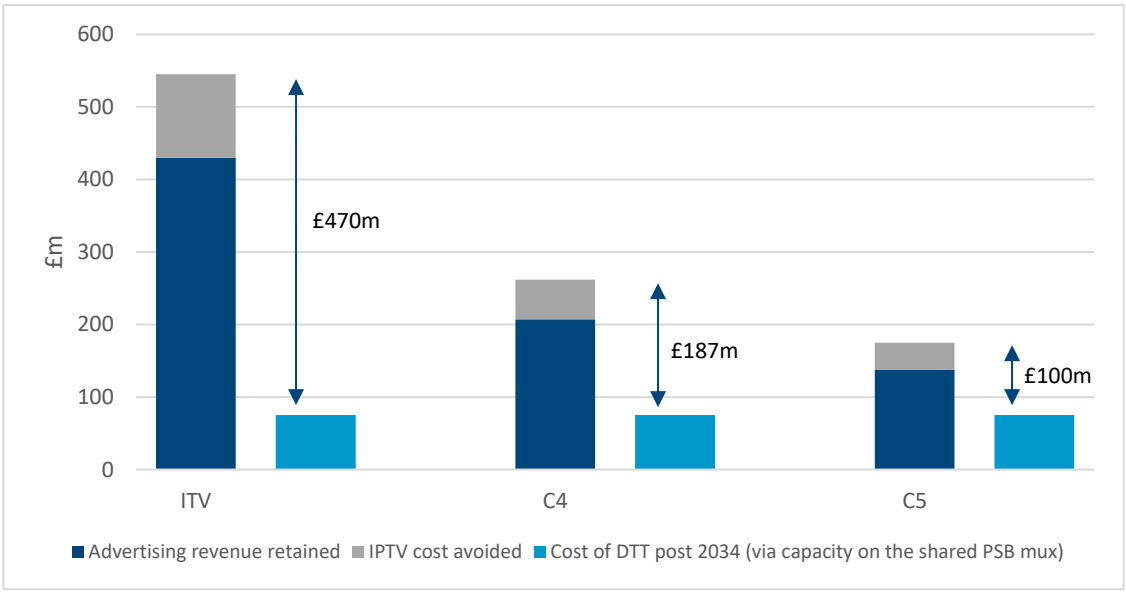
- The impact on the BBC along these lines is summarised here:

Figure 1: Cumulative impact (before inflation) of extending DTT for the BBC, 2035-45, £m (current report)



- For its part, ITV stands to gain £545m over 10 years (recouping foregone advertising revenues and avoiding incremental IP costs) against revised DTT costs of between £75m (if costs of subletting BBC capacity are shared equally with the other two commercial PSBs) and £126m (if the capacity is leased in line with market share)
- For Channel 4, the upside is £262m, against DTT costs of £60m-£75m; for Channel 5, the benefit is £175m, against £39m-£75m. The advantages to the commercial PSBs of extending the lifespan of DTT along these lines are summarised here (assuming capacity costs are shared equally):

Figure 2: Cumulative benefit (before inflation) of avoiding early switch-off, 2035-3045, by commercial PSB, £m (current report)



- In all cases, numerous PSB benefits (unquantified) are locked in by delaying the transition, including cross promotion on DTT to other PSB brands and services (iPlayer, ITVX, Channel 4 and my5, Freely)
- Optionality regarding any switch-off does not jeopardise potential economy-wide upsides; these will be available at a later date and likely at a lower ultimate cost to Government (for help schemes) and with better interim outcomes for commercial broadcasters and the BBC
- By moving to three national muxes from the end of 2034, the Government can proceed with certainty with the auction of some spectrum currently dedicated to broadcast TV (e.g., selling to highest bidder such as mobile broadband operators), thus unlocking financial value for the Exchequer and ushering in further efficiencies in the wider UK economy; this can all be delivered without a complete switch-off of DTT

1. Introduction: the Evolution of TV and the Government's policy review

1.1 For much of the modern era, broadcast television in the UK has been the primary medium through which high-quality audio-visual ('A/V') content has been efficiently and comprehensively delivered to citizens and consumers, in line with public-service goals and catering for a wide range of interests and tastes.

1.2 Core to this delivery was the terrestrial TV network, first in analogue, then – since 2012 – in fully digital mode, ensuring nearly every household in the country could receive a selection of TV channels over the air via home aerials, with the public service broadcasters (PSBs) as the near-universal foundation.

1.3 The regulatory compact that ensured the delivery of public services by the BBC (and S4C), alongside commercial PSBs ITV[2], Channel 4 and Channel 5, had several components.

1.4 In exchange for access to the proceeds from a near-universal licence fee, 'gifted' capacity on the terrestrial TV network and guaranteed prominence for its channels on a range of other TV platforms, the BBC delivered relevant content (including news and current affairs) to audiences around the country (and, indeed, around the world).

1.5 The commercial PSBs, for their part, operated under licences granting them terrestrial TV network capacity and prominence on the programme guides of other TV platforms in return for a range of undertakings, on content in particular.

1.6 The result was a robust, sustainable and efficient TV ecology, widely enjoyed by a range of UK viewers young and old. Even as the media markets evolved in the 1990s, ushering in the era of pay-TV satellite and widespread cable TV, terrestrial TV flourished and helped broadcasters meet a range of public-service goals including the creation of original British content, the provision of national, regional and local news and delivery of a varied schedule of TV genres.

1.7 The transition from analogue to digital TV in the first decade of the 2000s was trickier for the terrestrial network, and it was only the launch of Freeview in 2002 (sponsored by the BBC, the commercial PSBs, Arqiva and Sky) that ensured a credible over-the-air alternative in the digital era, featuring, notably, the 'portfolio' channels from the PSBs.[3] By 2012, when what remained of the old analogue terrestrial TV service was switched off for good, digital terrestrial TV ('DTT') was firmly established.

1.8 However, it then competed with a fully digital satellite offering from Sky, a consolidated cable industry (under the Virgin brand) and increasingly ubiquitous broadband services enabling consumption of a range of content on demand, much of it easily imported via porous international borders. What had been a market dominated by live TV (efficiently provided by DTT, alongside satellite and cable) was now far more complicated. From the UK launch of subscription video on demand ('SVOD') pioneer Netflix in 2014, these complexities were compounded.

1.9 In 2014, nearly all relevant TV content was consumed via a live broadcast, either on DTT or via cable/satellite. By early 2025, less than half of all relevant content was consumed 'live'. This was driven by a range of factors: explosive growth in SVOD services (Amazon, Disney, Apple, Paramount having all joined Netflix); aggressive marketing by Sky of its new-generation on-demand services; the release of ever-more sophisticated connected TV sets from the likes of Samsung, Sony and Panasonic; and meteoric growth in the consumption of content via video-sharing platforms, YouTube pre-eminently.

1.10 These developments generate serious consequences for a regulatory and commercial system predicated on balancing obligations with a range of benefits intrinsically connected primarily to broadcast TV. When

[2] ITV owns nearly all the so-called 'Channel 3' licences in the UK, with the exception of STV North and STV Central in Scotland, which are operated by STV. Relevant data in this report aggregates ITV and STV.

[3] For example, BBC3, ITV2, More4, 5USA, etc. Note that all BBC channels, including the portfolio variants, have PSB status. This is not the case for the commercial PSB extensions.

broadcast was the dominant mode, and when first analogue TV and then DTT were the only platforms with near-universal effective reach among UK viewers, it was a relatively straightforward matter to regulate the PSB compact. A berth on terrestrial TV (amplified by prominence rules ensuring that PSB content could be easily found on other platforms) cemented the rationale for the BBC licence fee. Moreover, their prominent presence in nearly every household underpinned the ability of commercial PSBs ITV, Channel 4 and Channel 5 to generate advertising revenue on a national scale.

1.11 In return for capacity and prominence on EPGs, the BBC and the commercial PSBs met their PSB obligations – making or commissioning an impressive array of UK original programming; delivering regional, current affairs and other content; and sustaining a complex and extensive schedule of varied genres. The PSBs were instrumental in fomenting a vibrant market upstream for independent UK producers, the availability of impartial news and current affairs, and the continued delivery of content the market was unlikely of its own accord to fund (UK children's content, arts, certain categories of documentary, minority-language programmes, etc.).

1.12 The commercial PSB regulatory compact, enshrined in legislation and overseen by Ofcom, is now facing far greater challenges than ever before and is subject to potentially significant reform. The BBC, too, is being fundamentally reviewed (as part of the Charter process) to determine whether changes need to be made to its mandate and funding. The very value that the PSB system is meant to engender is threatened if the underpinning compact no longer delivers adequate stability and/or reward to those (the BBC and the commercial PSBs) tasked with creating the value.

1.13 One measure of the threat is to consider at what point the DTT platform has declined so materially that a berth on DTT no longer confers enough value to PSBs for it to continue to play its critical role in sustaining the PSB compact.

1.14 This is the question with which the Government is currently grappling.

2. The Options under consideration

2.1 In conjunction with its latest review[4] of Public Service Media ('PSM') Ofcom has laid out three options for the future of DTT – reinvesting in the platform in an attempt to render it fit for purpose in the long term; achieving a slimmed-down service consistent with market trends (with or without setting an ultimate end date); and determining a date now for the phasing out of DTT completely, on the assumption that a combination of ubiquitous broadband and residual satellite provision can take up the challenge of cost-effectively delivering services universally.[5]

2.2 While Ofcom has provided no indicative dates for the third option, many industry observers point out that the current DTT capacity arrangements for ITV licensees and for Channel 4 and Channel 5 run to the end of 2034[6], suggesting that might be a relevant target date for switch-off. That date corresponds, as well, with the end of the current PSB licence periods for ITV's multiple licences and those of Channel 4 and Channel 5, all of which were renewed for a further 10-year period starting in 2025.

2.3 The BBC's contracts for DTT capacity are understood to run to 2030; thus, decisions regarding the BBC's two DTT multiplexes must be made soon in any event. The BBC is also in the early stages of renewing its next Royal Charter and Framework Agreement, which will run from 2028; this is likely to include at least some reform of the funding mechanism for the BBC.[7]

2.4 It is worth pausing to reflect on the distribution market structure today. Freeview has been an unequivocal success. Made up today of six national 'multiplexes' (three PSB muxes reaching nearly all households and three commercial muxes with 90% reach), DTT transmits the main TV service (around 80 channels) in more than 10m households and is the only TV platform available in nearly all homes.[8]

2.5 Satellite reached its zenith in terms of household penetration a decade ago (and today Sky is pursuing a policy of 'managed decline' for its satellite service, as it seeks to replace satellite with broadband connectivity for all its customers).[9] It is highly likely that Sky will seek to migrate completely from satellite to broadband (see elsewhere in this report for further discussion of this point). Cable, for its part, is limited by its installed network reach.

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[4] https://www.ofcom.org.uk/tv-radio-and-on-demand/public-service-broadcasting/public-service-media-review.

[5] The options were discussed in greater detail in Ofcom's 2023 report: *Future of TV distribution*. https://www.ofcom.org.uk/tv-radio-and-on-demand/public-service-broadcasting/future-of-tv-distribution. Note that further consideration of these options is provided in the final section of this report. This includes treatment of the impact on the PSB providers, Government, viewers and the broader ecology of public-service broadcasting.

[6] The terrestrial network is today owned and operated by Arqiva, which provides capacity and associated services to the PSBs under a regulated pricing model, in place since Arqiva became the sole transmission company following its acquisition of NGW (approved in 2008). Publication of the present report was funded by Arqiva.

[7] The BBC is funded largely through the TV licence fee. Owing to the same pressures discussed in this report around the challenges facing broadcast TV, the BBC confronts growing resistance from licence-fee payers, particularly as many households turn to non-broadcast media. A new PSB compact, either through a revitalised DTT or through a redefinition of the relationship between PSB players and IPTV platforms, appears necessary whatever the outcome of the current debate on the future of TV.

[8] PSB1 carries the BBC's services (and BBC Alba in Scotland and S4C in Wales), while PSB2 is jointly managed by ITV and Channel 4 via their shared company Digital 3/4, with Channel 5 and S4C (delivered regionally in Wales) as contracted tenants. PSB3 is the High Definition ('HD') mux, operated by the BBC, and carrying the main PSB HD channels. COM4 is operated and commercially exploited by SDN, a subsidiary of ITV, while COM5 and COM6 are operated by Arqiva, providers of overall DTT transmission services and responsible for the maintenance of the DTT towers, transmitters and other network equipment. Local TV services are delivered on muxes operated by Comux. Further details on the transmission mode, capacity and cost are provided later in this report, in the context of a review of the options around the future of DTT.

[9] Sky satellite pay TV was the main-set service in 33% of households in 2016, the high-water mark; in 2025, that penetration rate was 23% and is on a further downward trend.

2.6 Thus, the only 'platform'[10] capable of matching DTT's near-ubiquity is broadband. The extent to which broadband can affordably and reliably substitute for DTT (not just in terms of availability but actual take-up) will inform the decision-making about the options for TV's distribution future.

2.7 There are two sets of data and forecasts worth considering in greater detail before attempting to address the options around the future of DTT. First, while the direction of travel is clear on the ways in which consumers are behaving, there is a need to consider the likely evolution of that behaviour over time. Second, what is the trajectory of the platform market, left to its own devices, including the crucial question of whether and when broadband IPTV can reliably and cost-effectively replace broadcast on a universal basis?

2.8 In other words, what does the world look like in a counter-factual of no change to policy and a continuation of the present trends? Is it credible to believe that the combination of platform evolution and patterns of consumer behaviour will create the conditions for an early switch-off of the terrestrial network with the minimum of disruption?

2.9 After these two issues are addressed, a number of ancillary points will need to be covered. In particular, what are the costs of delivering each option – to the public purse, to the BBC and to the commercial sector? What impact might each option have on elements of the PSB compact (regional content delivery, impartial news, support for the independent production sector)? In the event of an early switch to broadband from DTT, what happens to the delivery of radio and emergency response, both carried as subsidiary services on the main DTT network? If a slimmed-down DTT is envisaged, how long should it be planned for, what is the ideal capacity and what technical upgrades are necessary (and at what and whose cost)? Will there be adequate capacity to ensure the platform is a viable and high-quality alternative for viewers? What value for Government might be unlocked in the event that significant spectrum currently used for broadcast is redeployed for other uses (and potentially auctioned off to generate income for the public purse)?

2.10 Government (and the relevant players) will need to answer a fundamental question. **Can the selected option be delivered at an affordable cost and with mitigation of the impact such a policy would have on existing players, citizens/viewers and the delivery of the goals of PSB (universality, commitment to original content, provision of impartial news, support for regional services)?**

2.11 In this report, it is intended that the value proposition of DTT in the various options be considered both from the point of view of the entirety of PSB delivery (thus as a matter of public policy) and from the perspective of operators – e.g., the BBC, the commercial PSBs ITV, Channel 4, Channel 5, and multichannel networks.[11] While the impact on the commercial players can be quantified in financial terms, given their dependence on advertising, production and subscription revenues, the case of the BBC requires separate consideration, given its publicly funded status and (so far) relatively constrained ability to pursue commercial opportunities in the UK.[12]

[10] Freeview operates as a 'badge' for TV set manufacturers in the broader 'horizontal' market. It is not a platform in the traditional sense of offering services to paying households as do Sky, Virgin, EE TV, etc.

[11] These include UKTV, Paramount (parent of Channel 5), Sony, Sky, Warner Bros. Discovery and a range of independents and specialists (e.g., home shopping, religion, adult and news).

[12] The BBC's status and future funding are necessarily considered in any analysis of the future of DTT and TV (see below). It is also worth recalling that the BBC, via its commercial arm BBC Studios, is a player in the domestic commercial broadcasting market, through its ownership of UKTV (the channels of which are branded 'U').

3. The Future of TV consumption

3.1 Analysts have faced considerable difficulty forecasting the patterns of consumer behaviour in relation to long-form A/V content, given shifting propositions and business models (e.g., SVOD and AVOD[13]), the phenomenal growth in video-sharing platform consumption (driven by YouTube) and significant technological evolution. This evolution is evident across the value and supply chains from content aggregation, navigation and search functionality to efficiencies in content delivery (e.g., virtual Content Delivery Networks, or 'CDNs') and irrefutable improvements in broadband infrastructure.

3.2 As a result of these complexities, there are many, largely conflicting, forecasts available in the market. In this report, building on foundational modelling work done by Mediatique[14], a comprehensive and updated forecast (adjusted for demographic and using industry-standard data to establish definitions and historical behaviours) is provided.

3.3 In the Mediatique model, the approach had been to track the consumption of live TV, including the BARB definition of TV content consumed within 28 days of transmission (via catch up, recordings, etc.), and to present this data for each age demographic. Over time, as cohorts age, the composition of each discrete cohort will change. This is before considering the impact of an ageing population generally, with changes to the composition of the distribution curve over time. As a consumer moves from the 25-34 demographic to the 35-44 variant, he and she does not adopt different behaviours overnight.

3.4 There is enough evidence on behavioural differences, however, that an extrapolation model (provided adjustments are made to account for changes in the characteristics of each cohort) is revealing of both how behaviours have been evolving and the likely future direction of change. By using a rolling, trailing 10-year period, it is possible to incorporate cohort behaviours over a reasonable time frame (this also smooths out exogenous factors such as the lockdowns of the Covid period, when TV viewing increased in line with larger available audiences at home).

3.5 Moreover, in recent years the evolution in technology and business models has been visible and increasingly predictable – for example, broadband growth, fragmentation in SVOD propositions and a plateauing of SVOD penetration, the introduction of ad-funded premium VOD services from major players such as Netflix and Amazon, and the growth of YouTube consumption, particularly on TVs.

3.6 As a result, one can expect to have already seen how certain consumers respond to these obvious market changes – particularly evident in the stubbornly high levels of TV consumption among the 75+ demographic, despite this cohort's undoubted growing ease with the latest technology, the widespread availability of alternatives to traditional TV and the inevitability that more digital-savvy consumers will have entered the ranks of older cohorts.

3.7 Following Ofcom and BARB, the Mediatique model focusses on Broadcast Viewing on TVs (there is, of course, significant viewing of A/V content on mobile devices) and on long-form professionally produced content (excluding, e.g., short-form and amateur content on YouTube). Ofcom (and Mediatique) also tracks on-demand content supplied by the PSB broadcasters separately under the category Broadcast Video on

[13] Subscription has been the dominant revenue model targeted by new-entrant streamers, although YouTube has been largely ad funded to date. In recent periods, the major streamers have begun to explore hybrid models which include an element of advertising video on demand ('AVOD'). Thus, the streamers having been competitors of the commercial PSBs for eyeballs are now increasingly competitors for advertising expenditure as well.

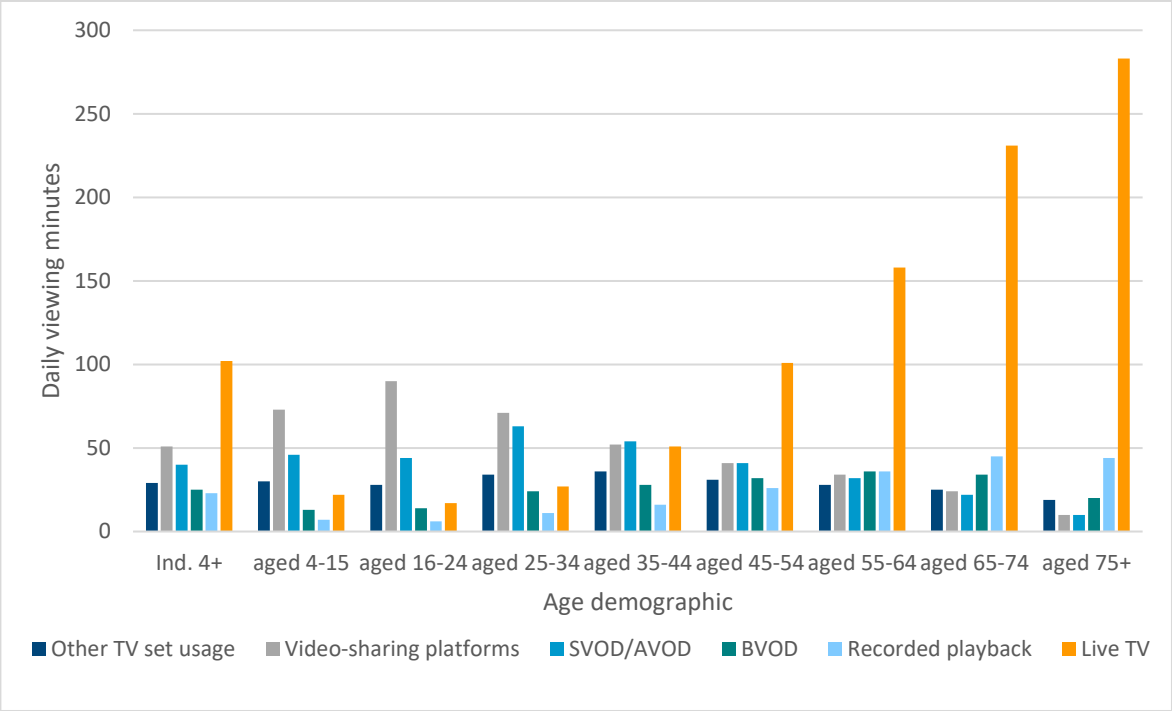
[14] Mediatique Limited last operated its model on behalf of commercial clients in 2022. The company, founded by the present report's author, Mathew Horsman, was for 20 years a leading research and advisory boutique working across the media and communications sectors in the UK and internationally. Among its many clients, it worked extensively for the PSBs (the BBC, ITV, Channel 4, Channel 5), for Ofcom (notably on the 2020 PSB Review) and for Arqiva (sponsors of the present report). The company was wound up on Horsman's semi-retirement.

Demand, or 'BVOD').[15] Thus in the core model used for the current report, 'Broadcast Viewing on TVs' includes all 'live' and 28-day playback (whether via terrestrial, satellite or cable or IPTV) but excludes BVOD.

3.8 In 2014, UK audiences across all demographics consumed 193 minutes of TV content a day on the BARB definition (live+28-day playback). This aggregated figure hides extensive variations by age group – with audiences aged 75 and older watching 323 minutes in 2014, compared to children 4-15 at just 102.[16] These demographic differences have an impact on viewing via the relevant TV platforms, with more viewing minutes generated in Freeview homes than in satellite and cable homes.

3.9 By 2024 (the latest figures publicly available[17]), this aggregate figure had declined to 125 minutes, driven by lower viewing among younger demographics (75+ viewing remained high). The degree to which age is determinant of viewing outcomes is clear in the latest data set.

Figure 3: Daily Minutes of TV viewing, by age, Q1 2025 (Ofcom CMR, Media Nations, BARB)



3.10 The 75+ demographic consumed 327 minutes of live and 28-day playback content, and 90% of the content watched came from broadcasters. By contrast, the 16-24 cohort watched c23 minutes a day of live and playback content, and just 20% of their content was sourced from broadcasters, even when BVOD is included to determine share.

3.11 Using the 10-year, rolling extrapolation model, adjusted for intra- and inter-cohort effects and in line with population trends provided by the Office for National Statistics ('ONS'),[18] the relevant daily minutes of

[15] Notwithstanding whether and how DTT is phased out, 'live' TV delivered to TV screens other than by broadcast (e.g., via iPlayer, ITVX or perhaps via an aggregated PSB media player, alongside Sky, Virgin and other IPTV propositions) will clearly grow. BVOD platforms are also important contributors to the business models of the commercial PSBs, as is considered further below.

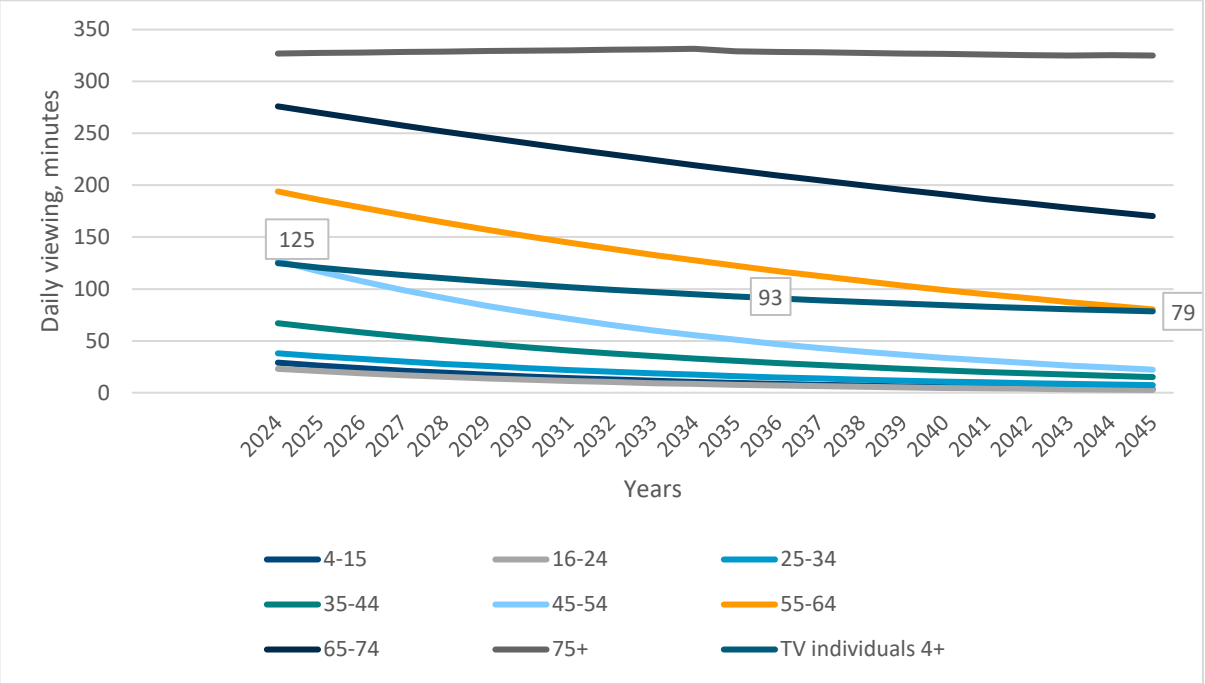
[16] It is worth noting that TV consumption has always differed through different phases of life; the variations, however, have become more marked.

[17] See latest Ofcom data at https://www.ofcom.org.uk/phones-and-broadband/service-quality/communications-market-report-2025-interactive-data. In this report, references to the Communications Market Report are given as 'CMR'.

[18] ONS projects household growth in England, and this can be reconciled UK-wide via the Families and Households database. Using 2021 as the base, ONS forecasts population distribution across age demographics, which is used for the Mediatique model. This latest projection runs currently to 2043; growth in 2044 and 2045 is assumed to replicate 2043.

viewing to 2045 have been forecast. By 2034, the end of the current licence period for commercial PSBs (and for their transmission contracts), the daily viewing is projected at 95 minutes, with the 75+ figure at 332 minutes. Even in 2045, at the end of potential 10-year extension of DTT's lifespan, the aggregate is projected to be relatively high at 79 minutes (older viewing is marginally lower in 2045 compared to 2034 but remains solid).[19]

Figure 4: TV viewing, daily minutes (broadcast + 28 day playback), by age, 2024-25 (Ofcom, BARB, Mediatique, current report)



3.12 The implications (notably financial) of this forecast are considered in detail in the following sections of this report. At this stage, the key point is around the relative robustness of live and recorded from live TV (however delivered[20]) even in the face of considerable structural headwinds.[21]

https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/householdprojectionsforengland/2018based.
https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/latest
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/tablea21principalprojectionukpopulationinagegroups

[19] While a separate figure is not provided for 75+, analysis from Enders appears to confirm continued robustness of viewing by older demographics through at least to the end of the 2030s.

[20] It is to be expected that a growing percentage of IPTV use will be to watch 'linear' or live TV as that becomes easier. This is addressed in the following section on platform outcomes.

[21] At this stage of the analysis, consideration of BVOD is excluded. However, there is no denying the importance of BVOD to the PSBs (rooted in their TV strengths) and it must form part of any credible evaluation of the options around DTT switch-off.

4. The Future of the platform market

4.1 The other key modelling exercise informing Ofcom's advice to Government and the latter's decisions will be to determine how the delivery of A/V content is likely to evolve over the medium and long term. To do this, Mediatique's platform model provides the foundation for an extended forecast.

4.2 Following customary approaches used by many analysts, this forecast identifies a hierarchy of the means by which TV can be accessed in UK households, to account for the fact that many premises can receive multiple services (e.g., most homes now have connected TVs, and may, for example, have Sky connected on the main set and Freeview or IPTV on secondary sets).

4.3 The service connected to the main set determines the category into which the household is placed. If a household subscribes to Sky or Virgin, it is counted as a Sky or Virgin home even if other services are available and used (IPTV, Freeview). Similarly, a Freeview household is one where the main set has a DTT tuner which is the means by which broadcast TV channels are watched.

4.4 Households are distributed into the following categories: Sky, Virgin cable, Freeview and IPTV. This final category is further broken down further as to the provider of the IPTV service: Sky (Now TV or Sky Stream with no satellite tuner), Virgin IP, Freely (the IP version of Freeview launched in 2024 by Everyone TV[22]) and 'other IPTV'.

4.5 By the end of 2024, the last full year for which some (limited) data is available[23], there were circa 7.9m households in the UK subscribing to a Sky service, of which 6.7m were satellite subscribers and 1.2m taking IPTV.[24] Virgin had 3.1m cable subscribers and 350,000 IPTV customers via Virgin Stream. Over time, Virgin intends to move all its customers on to its IPTV (fibre) platform. Freeview had 10.4m households in late 2024[25] and Freesat served approximately 970,000 households in 2024, while another 5.6m households had IPTV but no DTT or satellite tuner (via, e.g., a connected TV set from Sony, Samsung, etc.).

4.6 Using ONS figures, the number of UK households is projected to 2045, and the penetration of different TV platform providers is consistent with this household formation growth.[26] Note that we assume all UK households have at least some means of receiving long-form A/V content.

4.7 On these numbers, 25% of all households were using IPTV to watch TV on the main set in 2024. This is in line with BARB data.

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[22] Everyone TV ('ETV'), formerly Digital UK, is controlled by the PSBs (BBC, ITV, Channel 4 and Channel 5). It is responsible for the Freeview and Freeview Play brands and operates the EPG for Freeview, which sets out how and where channels can be listed. Everyone TV is licenced as an EPG provider by Ofcom. ETV also owns and operates Freesat, the free-to-view satellite service. Arqiva, a Digital UK shareholder from 2005, stepped down for strategic reasons in 2021. For historical reasons Sky has remained a shareholder of DTV Services, which owns and markets the Freeview brand. ETV launched its IPTV proposition last year to allow households to receive Freeview channels over IP, without necessarily having a DTT tuner and/or aerial. In the forecasts set out in this report, Freely is tracked separately from both Freeview (broadcast DTT) and 'other IPTV', including those via connected TVs with no governing brand (e.g., excluding Sky, BT. EE, etc.).

[23] Sky, owned by US cable company Comcast since 2018, no longer publishes relevant UK information. BARB provides its Establishment Survey, which Ofcom has adopted. The Mediatique model has been checked historically against BARB/Ofcom.

[24] Sky has several categories of subscriber, including Sky (the original satellite service now being phased out), Sky Q (the successor main service with integrated satellite and IP connectivity), Sky Glass (Sky's branded IPTV set) and Sky Stream (an IPTV 'puck' connecting to a compatible TV set). Sky also has an 'off brand' stand-alone IPTV service, Now TV. The Sky IPTV forecast here includes Sky Stream, Sky Glass and Now TV.

[25] ETV reported 500,000 'weekly users' of Freely in September 2025.

[26] https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/householdprojectionsforengland/2018based; these were then adjusted for the whole of UK, using https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/latest; age distribution based on projections using 2021, out to 2043; growth in 2044/45 held constant: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/tablea21principalprojectionukpopulationinagegroups

4.8 In the base-case model, there are two key assumptions. First, it is assumed (by definition) that DTT is not switched off early and the BBC continues to be adequately funded.[27] This is to ensure a counter-factual of no change to the regulatory environment.

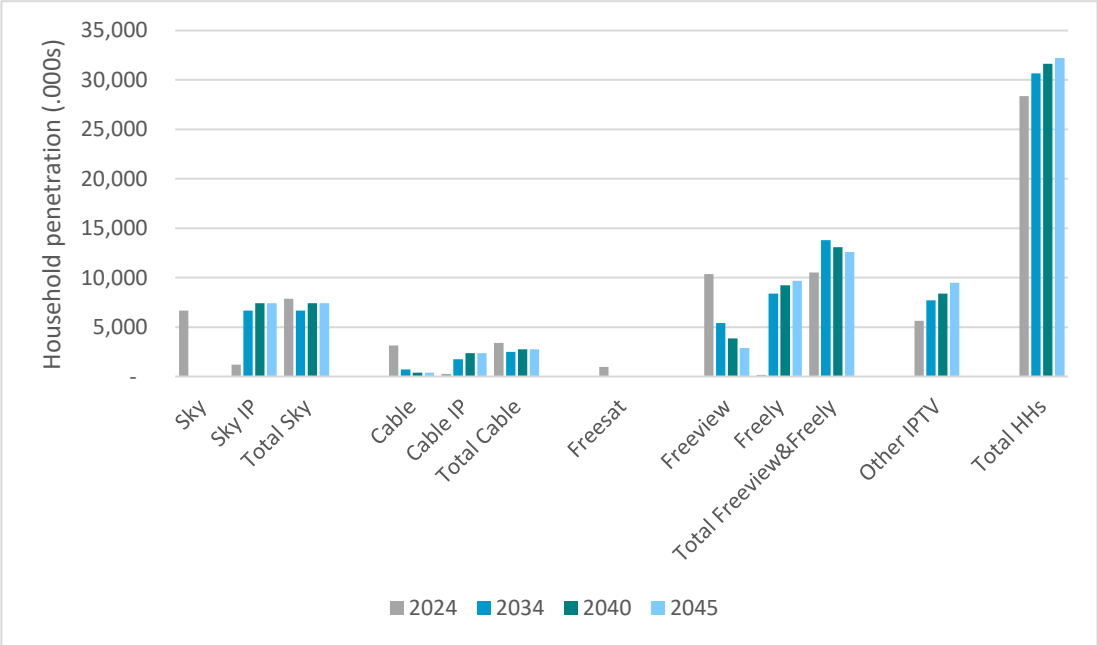
4.9 Second, it is assumed that Sky continues its policy of promoting Sky Stream and downgrading support for the residual satellite-delivered service (note that new subscribers to Sky are directed to Sky Stream and the old Sky+ HD set top boxes are no longer supported and need to be swapped out in the short term).

4.10 Sky operates long-term leases from SES-Astra for satellite transponder capacity (which are scheduled to come to their next renewal point at the end of 2028).[28] Given Sky's purely commercial incentives (it is under no requirement to deliver services over satellite), it is assumed in the core forecast that Sky satellite is switched off entirely by 2032 in line with its current strategy of favouring a migration to IPTV.

4.11 Given that Freesat is dependent on the much larger Sky platform to ensure cost-effective delivery, it is further assumed that Freesat has no independent future and is likewise switched off by 2032. This leaves DTT, cable and IPTV as the remaining platforms for the distribution of TV. This is an important point which needs to be understood by Government when decisions are made around the future of DTT as Freesat is unlikely to be available as a backstop alternative.

4.12 In the modelling, it is assumed that viewers will be able to receive live and on-demand services after 2032 via Freeview, Virgin, Freely, Sky IP, Virgin IP and 'other' IPTV. Projecting from current trends, the chart below provides three projections for future platform penetration: 2034, at the end of the current licence period for commercial PSB channel providers on DTT, 2040 and 2045.

Figure 5: Household platform penetration, multiple platforms, 2024-45, '000s (Mediatique, current report)



4.13 Sky is forecast to have 6.6m IPTV customers by 2034 and 7.4m by 2045. Virgin's total TV base (cable and IPTV) is forecast to be 2.5m in 2034 and 2.8m in 2045. Freely is predicted to have 8.3m households in 2034 and 9.7m by 2045. 'Other' IPTV is at 7.7m in 2034 and 9.5m in 2045.

4.14 However, the key takeaway here is the likely continued relevance, absent a change in regulatory framework, of the DTT platform (and its IPTV variant Freely). There are expected to be around 5.4m Freeview main sets

[27] The important connection between the BBC's access to public funding and its delivery of universally available content and services is reiterated in later stages of this report.

[28] https://www.ses.com/press-release/sky-uk-renews-capacity-ses-latest-multi-year-deal.

in UK households being used to watch broadcast TV in 2034 – a significant number and a very real barrier to a market-led transition from DTT to an all-IP environment (costs are considered further in the relevant section of this report below).

4.15 Even as late as 2045, on current expectations, there will be c2.9m households still using Freeview (DTT) as their chosen means of watching broadcast linear TV channels on the main set. Note that the significant number of secondary sets that may still be in use by the end of the period is disregarded. In the first quarter of 2025, BARB estimates that around 8m households used DTT on a secondary set[29], although this will doubtless reduce as old kit is swapped out for new (IPTV-enabled) sets.[30]

4.16 There are a number of forecasts on viewing and platform penetration in the public domain. For example, MTM-3Reasons, which informs Ofcom's modelling and is the basis for the University of Exeter Report[31] commissioned by DCMS, concentrates on 'availability' rather than take-up/use and focuses on so-called 'solus' DTT – households where there is no broadband connection and/or connected device (this is estimated in the Exeter report to be just 1.5m by 2040 absent any intervention by Government).

4.17 At the other end of the spectrum, Enders seems to concentrate on 'any' Freeview in the household, suggesting more than 10m Freeview households in 2039.[32] This seems unduly aggressive given currently observable trends but highlights the uncertainty in this area and why relying on the very low University of Exeter / MTM-3Reasons numbers would be unwise.[33]

4.18 The approach in the present report is to consider as a DTT-Freeview household one where DTT is used to watch broadcast TV on the primary set in the home, even if broadband is available or even used to consume non-linear, non-broadcast content.

4.19 In the Exeter report, a category of DTT Hybrid is also identified, which is forecast to be in 5.9m households in 2040, suggesting that a total of 7.4m households will still be using DTT in 2040. Of these, it is assumed that some may well adopt Freely (the Freeview-related service that offers linear channels over IP) and therefore will already have become IPTV households over the course of the forecast period.

4.20 For comparison, the present report forecasts 3.9m households using Freeview (DTT) for watching broadcasts on primary sets in 2040, with another 9.2m households opting for Freely. Note that many Freely sets will still have DTT tuners and may well also be watching some content via DTT.

4.21 It is assumed in the Exeter report that it is only the 1.5m 'unconnected' households that would require assistance in the event of a switch-off of DTT in 2040 (a number that looks too low in any event); all other households are assumed to have access to fast broadband (expected by 2040 to be available for virtually everyone) or are able to use satellite.

4.22 Despite work shared in their own report on audience behaviours, including identifying reluctance on the part of certain (older and poor) demographics to take up IPTV and the persistent preference of 'linear heavy' households for broadcast (DTT), Exeter/MTM-3-Reasons's base-case forecast reflects a strong bias toward technology and availability. Their approach therefore risks underestimating the number of households which habitually use Freeview for their broadcast consumption, and which will require encouragement to adopt IPTV as a means of accessing linear channels.

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[29] There are millions of TV sets with DTT tuners in UK HHs but not all of these are connected and/or used.

[30] See latest data at: https://www.barb.co.uk/barb-establishment-survey-quarterly-data-report-total-network-jan-2025-to-mar-2025/.

[31] University of Exeter et. al, *Future of TV Distribution*, Report issued to the Department For Culture, Media and Sport ('DCMS'), October 2024.

[32] See 'Broadcast transition to IP: Accelerating but a long way to go on DTT', 1 October 2024.

[33] In its most recent data (to March 2025), Ofcom reports 14.3m households with any DTT, down just 2.2% over the previous 12 months, underlying the persistent role Freeview plays in the market (CMR/Media Nations, *op. cit*.)

4.23 **'Available' device and network capability in the home is not the same as take-up.** Currently, around 75% of UK households take 'superfast' broadband (at least 30 Mb/s), the minimum required for watchable reliable A/V content over IP.[34] EY expects nearly 20% of premises to be without adequate connections in 2040, owing to inability or unwillingness to pay.[35]

4.24 Moreover, Exeter/MTM-3-Reasons appears to rely on the continued availability of satellite as a backstop to deliver a Freesat style service, particularly in the mid-2030s when a DTT switch-off might be contemplated. As argued above, this seems unlikely.

4.25 It is unquestionably the case that a significant number of the Freeview households in 2034 (and certainly by the mid-2040s) will be IP-enabled, both from a device and a network point of view. On current plans, broadband of speeds adequate to support linear and non-linear content delivery over IP will be technically available in nearly all UK households.

4.26 However, it is also clear, given current take-up trends, that there are three barriers to a market-led switch off (certainly one as early as 2035), only one of which is related to the technical reach of IPTV.

4.27 The first is the need to ensure that all households have access to network delivery of a quality (and speed) able seamlessly to substitute for the established DTT platform.[36] The second relates to whether DTT households are suitably comfortable with the IPTV user interface and technical set-up (given that the DTT household profile trends older and poorer).[37] The third is about the costs. An expensive broadband subscription is required to permit substitution of DTT, and there continues to be friction in relation to uptake of full-fat broadband across all socio-economic groups.

4.28 Given the combination of expected audience behaviour (reduced but still salient consumption of live TV) and platform outcomes (nearly 3m households consuming broadcast TV via DTT on their main TV sets even as late as 2045), it seems relatively clear that an early migration to IPTV, driven by market forces alone, would not be straightforward.

4.29 Is there a case, even so, for there to be **managed transition** to IPTV in the service of other factors: costs, efficiency, the unlocking of socio-economic value from ubiquitous IP connectivity? If so, what other elements must be considered and, in particular, what would be the nature and extent of any PSB regulatory compact between PSBs and IP providers (in the absence of DTT)? These factors are addressed in detail in the remainder of this report.

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[34] https://www.ofcom.org.uk/phones-and-broadband/coverage-and-speeds/full-fibre-broadband-reaches-nearly-7-in-10-homes.

[35] EY authored a report for Broadcast 2040+, a group (including Arqiva) advocating the retention of DTT into the 2040s. https://www.broadcast2040plus.org/_files/ugd/4e1def_c2059dcf53cb4909bbcd7a20356f5dca.pdf.

[36] The experience currently of watching live TV over IPTV is subject to a number of technical issues, which may persist as volumes increase. These include delays when switching channels, dropped connections and buffering. This may be one reason households with access to both broadcast (e.g., DTT) and IPTV may continue to prefer the former for live viewing.

[37] The DTT platform has two key characteristics in this context. Owing to the more limited number of channels compared to satellite and cable, broadcasters can expect a viewing premium from distributing channels on Freeview compared to Sky or Virgin (a premium historically of between 10% and 20% compared to other platforms). At the same time, the DTT platform has a bias toward older and poor users, amplifying issues around switch-off. https://www.ofcom.org.uk/internet-based-services/technology/barriers-to-household-connectivity?utm_medium=email&utm_campaign=Weekly%20publications%20update%2019%20September%202025&utm_content=Weekly%20publications%20update%2019%20September%202025+CID_f17c52a3eab627dd83b6674314892675&utm_source=updates&utm_term=Research%20Report%20Barriers%20to%20Household%20Connectivity

5. The Perspective of the PSBs and other stakeholders

5.1 The BBC and commercial PSBs will all be affected by the decision by Government to revise its strategy on the future of DTT. While the impact is similar across both categories, there are distinct differences between the BBC and the other (commercial) PSBs, which are explored in this section.

5.2 All PSBs have a mandate to be universally available and this, in practice, has meant being available on DTT. For the BBC, the requirement is critical to its funding model (access to the proceeds of a universal, mandatory TV licence fee) and informs its scheduling, commissioning (e.g., from independent suppliers) and other aspects of day-to-day management. The BBC must appeal to a wide range of tastes and interests; deliver content specifically targeting minority-language communities; and ensure production and dissemination of impartial news and current affairs.

5.3 While there are many metrics the BBC uses to evaluate its public-service delivery, two key ones are audience measurement (reach, viewing and usage, across socio-economic and age demographics) and aggressive attention to costs (given it needs to be accountable in the receipt of public money).

5.4 The commercial PSBs also have requirements in relation to their licences (to be universally available, to meet a range of programming targets, to commission content from independent suppliers, etc.) but the impact of any change to distribution (e.g., a migration away from DTT) is more easily analysed for the commercial players precisely because of their reliance on commercial revenues.

5.5 The impact on the commercial PSBs is covered first in this section, followed by further consideration of the specific effects on the BBC.

Commercial PSB revenues in the counter-factual

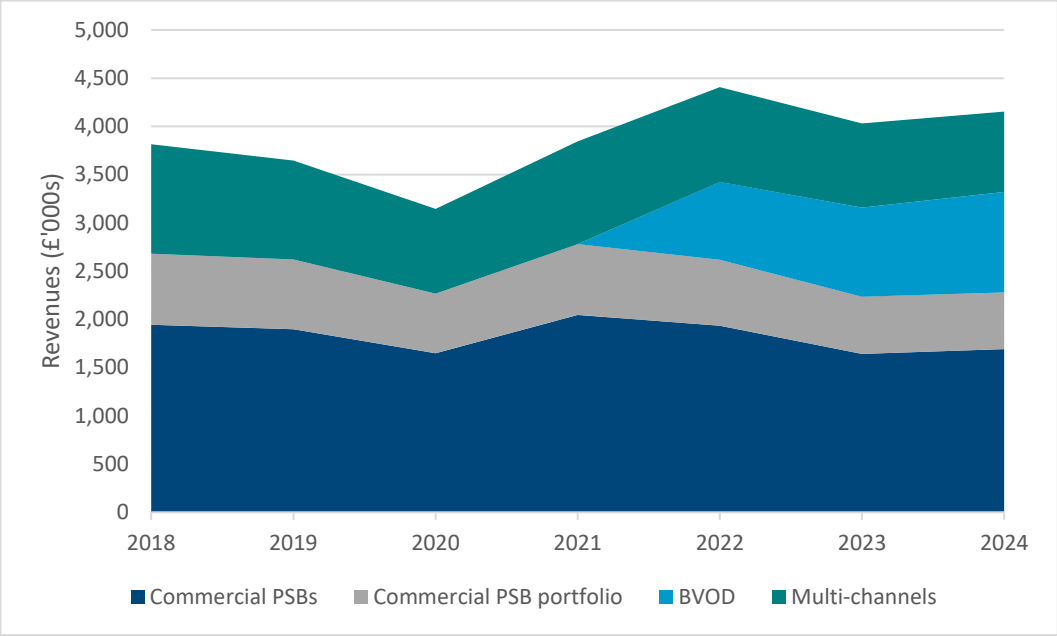
5.6 The commercial PSBs continue to be reliant on the traditional TV advertising market, despite significant progress in developing income streams from their relationship with third-party distributors[38] and their on-demand and live-streaming offerings via BVOD players (ITVX, Channel 4 and my5).[39] In addition, ITV is a major producer of TV content, via ITV Studios, which complements advertising, subscription and syndication income.

5.7 It is the combination of TV advertising and BVOD income that is critical to the revenue generation potential of the commercial PSBs. These two revenue streams over recent periods are summarised in the table below. Note that commercial broadcasters, including multi-channel operators, generated 9% more revenues in 2024 than in 2018, owing to the growth of BVOD. If BVOD revenues are excluded, 'traditional' TV advertising across all broadcasting dropped by 18%.

[38] Sky, Virgin and connected device players have commercial deals with the relevant PSBs and these syndication payments are becoming meaningful.

[39] ITV advertising figures (linear and BVOD) in this report include STV (which holds the two Channel 3 licences north of the border). The iPlayer (currently) does not charge for content or take ads (although there may be scope for the adoption of commercial models in the next Charter as a means of addressing funding pressures). In the interim, the BBC is exposed to commercial markets via BBC Studios, which owns UKTV (itself funded from traditional TV advertising, some platform income from pay-TV operators, and digital advertising via the on-demand 'U' service).

Figure 6: TV and BVOD advertising revenues, actual, 2018-24, £'000s (Ofcom CMR, Media Nations, 2025)



5.8 Broadcast revenues (supplemented in the case of ITV and STV by their production income) must cover an array of expenditure, including spend on distribution and content creation.[40] For the commercial PSBs, the income they generate (in part sustained by their regulatory assets in the form of DTT spectrum and prominence) underpins key elements of the PSB compact – including the commissioning and production of original content; production of national, regional and local news, and current affairs; and a statutory reliance on independent TV content supply.[41]

5.9 Barring changes to the compact and/or significant evolution in technology and business models, it is assumed for the purposes of the current report that Net Advertising Revenues ('NAR') will decline by 2.5% a year[42] from 2026 to 2030 and then 2% p.a. thereafter until the end of the forecast period, before inflation.

5.10 For BVOD, conservatively, the year-on-year increase is set at 4% from 2026 to 2030, and then at 3% from 2031 to 2034 and 1% thereafter to 2045. These revenues are assumed to generate premia associated with targeted advertising.

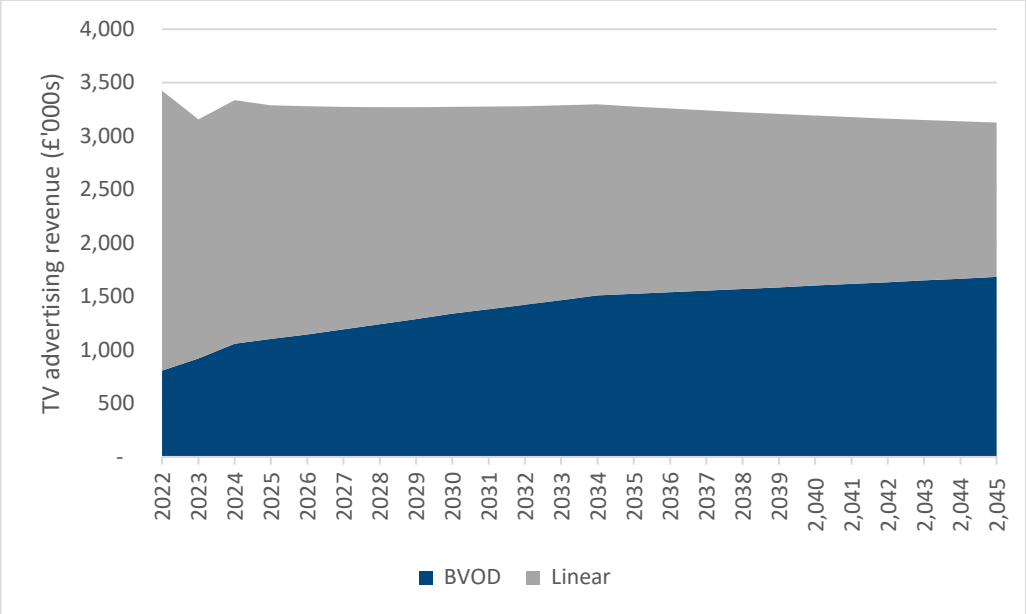
5.11 On these numbers, NAR is therefore expected to be 37% lower in 2045 compared to 2024. This is consistent with the forecasted viewing minutes decline from 125 minutes to 79 minutes over the same period.

[40] The PSB licences give ITV a berth on DTT and rights to prominence on EPGs, thus underpinning viewing share (and advertising income). The production businesses of ITV and STV are not part of the PSB compact even if overall revenue generation is available to meet their content and distribution expenditure.

[41] UKTV and a few small categories aside, the BBC does not pursue commercial models in the domestic market. It is required, however, to meet similar obligations on content creation, sourcing from external suppliers, commitment to news and to universality as the commercial PSBs, and indeed to deliver more detailed undertakings in exchange for access to the proceeds of the licence fee, the 'gifted' DTT capacity, and prominence on TV platforms. As with ITV, Channel 4 and Channel 5, the BBC is also set to benefit from an extension of prominence protections beyond EPGs on 'traditional' TV platforms.

[42] Note that the actual year-on-year out-turn will vary and the model represents a smoothing out of underlying trends.

Figure 7: Forecast TV advertising (NAR) and BVOD revenues, 2024-45, £'000s, before inflation (Mediatique, current report)



5.12 BVOD is expected to be 59% higher (before inflation) in 2045, compared to 2024. However, this is not enough to offset the decline in traditional advertising, as the net figure for traditional and BVOD revenues taken together is 6% lower in 2045.

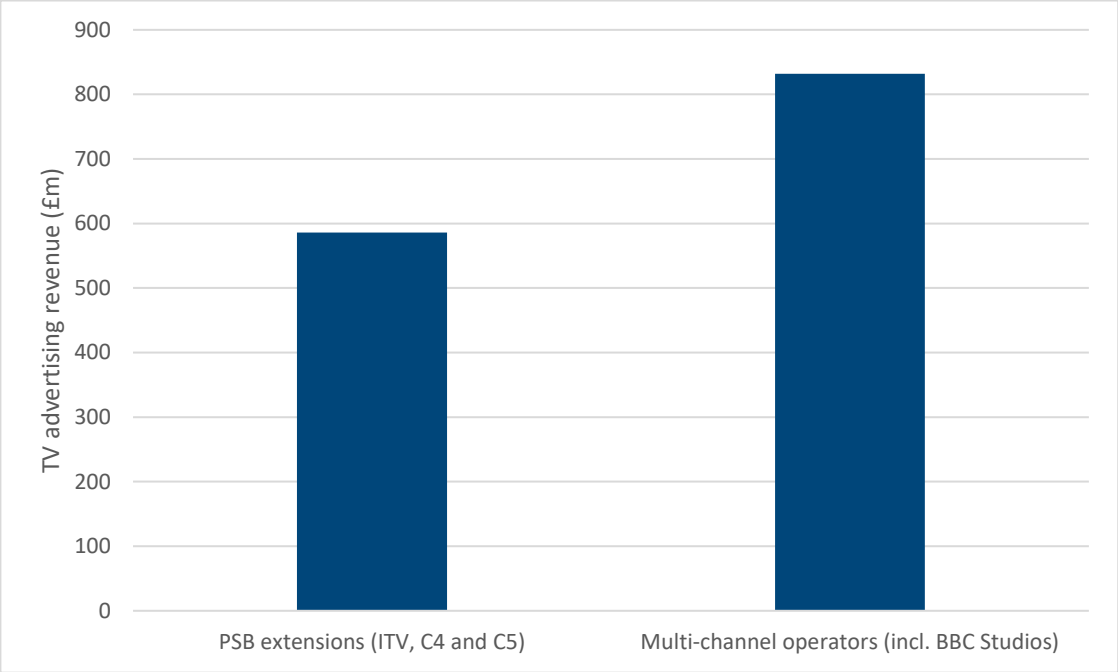
5.13 Across the platform market, channels on DTT routinely deliver higher viewing shares compared to the same channels on cable and satellite, for example. This is commonsensical, as there are fewer competing services on Freeview (c80 channels) compared to 'full fat' DSAT or digital cable (up to 300 channels) and Freeview attracts TV-heavy users.[43]

5.14 It is worth noting that the PSBs generate significant viewing (and for the commercial players, revenues) from their portfolio channels, all of which are carried on DTT and other TV platforms (similarly enjoying a viewing premium on Freeview). Across all the PSB extensions, ITV, Channel 4 and Channel 5 generated £586m in TV advertising revenues (excluding BVOD) in 2024, against a relatively modest content cost base. 'Multi-channel operators' (i.e., not including the portfolio channels of the commercial PSBs) took an additional £832m in 2024. This category includes the revenues generated by BBC Studios via its UKTV subsidiary.[44]

[43] In recent periods, characterised by relative stability and maturity on TV platforms, the premium was c10-20% depending on the channel. In work provided confidentially to Arqiva by Mediatique in 2021, this was forecast to remain significant through to 2035. In terms of TV viewing overall, in the three years to 2020, prior to the Covid effect, Freeview homes watched on average 13% more TV than the average Sky and cable home.

[44] BBC Studios took 100% ownership of the entertainment channels within the UKTV group in 2019, with former equity partner Discovery taking on the lifestyle and documentary brands. BBC Studios no longer reports UKTV revenues separately. UKTV's sales house, 4 Sales, does not break out gross revenues from its airtime sales arrangements. In 2017, prior to the transaction with Discovery, the trade magazine Campaign estimated UKTV generated advertising sales of around £225m. BBC Studios and Channel 4 recently announced a new distribution arrangement, whereby UKTV content (under the U brand) will be directly available via C4's online streaming service. It is too early to predict how this might affect UKTV's digital advertising income. https://corporate.uktv.co.uk/newsroom/channel-4-and-uktv-announce-deal-to-carry-uktvs-u-service-on-channel-4-streaming.

Figure 8: 2024 TV advertising revenue, commercial PSB portfolio and multi-channels, £m (Ofcom CMR, Media Nations, 2025)



5.15 While the PSB portfolio channel revenues are likely to fall[45], they will continue to contribute to the operating performance of the commercial PSBs and UKTV, and at lower cost base (driven by lower content costs and more repeats) than for the mainstream channels.[46]

5.16 ITV (and to a degree Channel 4, as well) also derives a significant share of its advertising revenues from local and regional slots, which are delivered cost effectively on DTT owing to the network's regional structure.[47] The commercial PSBs can also generate a range of additional revenues from third-party distribution partners in the form of syndication payments, and in-kind benefits around access to prominent positioning (outside the regime of appropriate prominence) and the waiving of technical platform service ('TPS') charges.[48]

5.17 Finally, the commercial PSBs benefit from control of the EPG policy on Freeview. Among other benefits, this has meant a conducive environment for directing audiences to PSB players and catch-up services. By contrast, the PSBs (including, in this case, the BBC) must rely on new (untested) regulations concerning prominence on other (digital) platforms.[49] There, the PSBs face more competition; moreover, the digital platform operators are often incentivised to promote competing services (either financially or through in-kind trading) or their own content and services where applicable. On DTT/Freeview, this risk is minimised. This is also the case for Freeview Play and, to a lesser degree, Freely, where the PSBs similarly have control.

5.18 In a counter-factual where DTT is switched off from 2035, the commercial PSBs would put at risk the security of revenues from the Freeview platform, replacing these with revenues generated over IP. An indication of the foregone revenues from this change is provided in the analysis below (and summarised in Figure 9).

[45] In the Covid-disturbed trailing five-year period (2019-24), advertising revenues at the main PSB commercial channels declined by 11%, from £1.9bn to £1.7bn. Across the same period, the portfolio channels suffered a 19% decline although the differential narrowed from 2022.

[46] It will be worth returning to the issue of the portfolio channels in the review of DTT options, below.

[47] No attempt is made here to separately forecast regional advertising income for the PSBs.

[48] Operators such as Sky provide a range of services to channels and services on their platforms, including EPG listings, encryption, etc., for which it is permitted under regulation to charge.

[49] New rules governing prominence on a range of digital platforms have been ushered in by the Media Act (2024). How this may work in practice is not yet known.

5.19 First, the platform forecast is used to determine what percentage of the market Freeview represents, adjusted for the Freeview premium. In our modelling, we assume a viewing premium of 15% throughout the forecast period – in line with the historical advantages of the Freeview platform against cable and satellite.[50]

5.20 In a second calculation, a discount of 20% is applied to account for the loss of TV-heavy viewing in Freeview households and the heightened competition in the IPTV market. In this simple calculation, even Freely IPTV households deliver this discounted viewing share compared to the case where Freeview remains in place (a conservative assumption).[51] No account has yet been taken for the net impact on costs (the phasing out of DTT expenditure and the incremental costs of delivering TV minutes via IP).[52]

5.21 The result of these calculations is then applied to the total revenues (NAR and portfolio) estimated to be generated by the commercial PSBs. A comparison is made between the revenues arising from delivery of TV viewing via Freeview and via IPTV in the event of no DTT from 2035.

5.22 For the 2024 period, total NAR (including the commercial PSB portfolio channels) was £2.28bn. The Freeview market share (households or 'HHs') was 36% (10.4m out of 28.8m). Applying a 15% uplift, the 36% share delivers 41% of the associated NAR revenues, or £942m.

5.23 Spooling forward to 2035, DTT market share is estimated to have declined to 17%, or 19% of associated NAR after the premium is applied. NAR is forecast to be £1.75bn, £336m of which derived from Freeview.[53]

5.24 If it is assumed that there is no DTT in 2035 (i.e., the entirety of the forecast minutes of daily TV viewing are streamed over cable and/or IP), then the PSB share drops to 13% (reflecting the 20% discount applied to the base case). The resultant NAR attributable to this category (i.e., minutes delivered over broadcast in the counter-factual) is £234m in 2035, implying foregone revenues that year of £102m.

5.25 In the 10 years between 2035 and 2045, the commercial PSBs risk a cumulative £768m in foregone advertising revenues in the event that DTT is switched off in the mid-2030s. This is excluding the net costs of replacing broadcast delivery with IP, as is explored in the next section. The BBC, via UKTV, also faces foregone revenues (these are excluded in this section as they relate to the non-PSB commercial multi-channel segment). The impact on the BBC is explored in greater detail below.

5.26 The calculations of the foregone revenues for the commercial PSBs are summarised in the table overleaf.

[50] It may be even higher if one compares a slimmed-down DTT platform (the core scenario in subsequent sections of this report), where the PSBs have even higher critical mass against alternatives.

[51] The discount reflects the more competitive environment in IPTV, which is assumed to apply even in Freely households. For non-Freely IPTV households, the discount might be further compounded by the reduction in control of the EPG and search/navigation elements, notwithstanding new protections on prominence in the Media Act (2024). IPTV is at a relatively immature stage. Over time, as streamed linear over IP propositions mature, it will be possible to validate the differential.

[52] The future costs in a counter-factual of an early switch-off of DTT are explored separately below. While the BBC is not directly affected the foregone commercial revenues in this scenario (setting aside UKTV), it will be in line to pay the incremental IP costs. Therefore, the next section of relevant for both the BBC and the commercial PSBs.

[53] In practice, the NAR generated is a function of the complicated market through which commercial impacts are measured and sold by ITV Media, 4 Sales and Sky Media (on behalf of Channel 5). The outcomes also vary year on year owing to a range of factors (for example, the periodicity of sporting events). The approach in this report is aggregate and high level.

Figure 9: Foregone advertising revenues, commercial PSBs, in event of switch to all IP from 2035 (current report)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
DTT households ('000s)	5,146	4,837	4,529	4,220	3,911	3,860	3,667	3,474	3,281	3,088	2,895
Market households ('000s)	30,820	30,993	31,161	31,325	31,481	31,635	31,792	31,945	32,087	32,087	32,087
DTT market share	17%	16%	15%	13%	12%	12%	12%	11%	10%	10%	9%
Uplift DTT market share after premium	19%	18%	17%	15%	14%	14%	13%	13%	12%	11%	10%
IP market share after discount	13%	12%	12%	11%	10%	10%	9%	9%	8%	8%	7%
Relevant TV advertising - all PSB channels (£m)	1,752	1,719	1,685	1,653	1,621	1,590	1,559	1,529	1,499	1,471	1,442
Attributable to Freeview (£m)	336	308	282	256	232	223	207	191	176	163	150
Cumulative (£m)		645	927	1,183	1,414	1,637	1,844	2,035	2,212	2,374	2,524
Increment attributable to IPTV if no DTT (£m)	234	215	196	178	161	155	144	133	123	113	104
Cumulative (£m)		449	645	823	984	1,139	1,283	1,416	1,539	1,652	1,756
Foregone rev's (£m)	**102**	**94**	**86**	**78**	**70**	**68**	**63**	**58**	**54**	**50**	**46**
Cumulative (£m)		**196**	**282**	**360**	**430**	**498**	**561**	**619**	**673**	**723**	**768**

5.27 If current viewing shares are maintained, and the BBC's viewing excluded, then ITV's share of the foregone advertising revenues of £430m, with Channel 4 on £207m and Channel 5 on £138m.[54]

The Impact on the BBC

5.28 The BBC stands to lose both reach and viewing share as a result of an early migration away from DTT (and its UKTV revenues, similarly, would be affected as laid out in the case of the commercial PSBs above).[55]

5.29 For the BBC, a meaningful drop in either reach or viewing share or both (via the loss of the Freeview viewing premium and the application of the IPTV discount) would have a negative impact on the BBC's ability to maintain its share in all households. The BBC, moreover, has a further challenge in light of the platform profile of Freeview (trending older and lower-income), representing a significant danger for a public-service broadcaster in receipt of public money, and tasked with meeting universality and quality standards.

[54] There might be a case to assume IP delivered viewing impacts might generate a premium in the event that advertising is targeted to specific consumer/household profiles. However to date this has been the case for on-demand content and certain playback consumption. For 'live' TV over IP, this is expected to be delivered cost effectively over multicast and therefore to be counted within the same revenue category as broadcast TV delivery (contributing to high-volume, coterminous viewing that is itself already highly valued by advertisers).

[55] While not 'PSB', the UKTV channels are an important source of revenues for BBC Studios, and therefore for the BBC more broadly. Given UKTV's viewing share and presence of Freeview, the BBC might expect foregone revenues at UKTV, in the event of an early switch-off of DTT, to be of a broadly comparable extent to the Channel 5 impact (calculated above at £138m).

5.30 A commitment to DTT (at least in some form) is likely to be necessary for the BBC for as long as there is a significant number of households unwilling or unable to convert to IPTV. Abandoning those not yet able and willing to make the transition would create intolerable pressures for the BBC.

5.31 There are two impacts of note from an early transition away from DTT. The immediate outcome of a loss of reach and share is to put pressure on the BBC's 'compact' as a publicly funded provider (including the likelihood of increased resistance among licence-fee payers to accept the fee). It also suffers from a reduction in the ability to manage audiences across linear and non-linear propositions, as it replaces joint control of the EPG on Freeview with (untested and looser) regulations regarding prominence on digital platforms. Freely, owned by the PSBs, is a partial answer to this challenge but there will remain a significant number of IPTV homes controlled by third parties, and the impact of new regulations on prominence remains unclear.[56]

5.32 The second (perhaps more dramatic) impact would come when the Government sets out to fund any required transition to IPTV. As is covered in further detail below, key transition costs include: administration of a switch-off programme; the costs of swapping out receiving equipment (IPTV 'pucks' for unequipped households[57]); incremental broadband costs for households unable to afford ongoing high-speed fixed broadband subscriptions; and the significant investment in awareness campaigns to prepare and implement the transition.

5.33 When the UK moved from analogue to digital TV in the 2000s, the BBC was obliged to set aside funds from the licence fee to finance the Digital Help Scheme. There is a risk (and a large one) that the Government yet again turns to the BBC to take the lead on the transition. Depending on its timing, that transition could be prohibitively expensive.[58]

5.34 The BBC would also share in the impact on all PSBs implied by a shifting cost profile for IPTV in the event of an early transition away from DTT. Separately, the BBC would also incur additional costs for its broadcast radio services which share many sites and operations with DTT. These identified shared impacts (notably in content production and in distribution) are covered in further detail here.

PSB costs in the counter-factual (BBC and commercial PSBs)

5.35 A critical cost for PSBs (indeed all consumer-facing media companies) is **content.** Acquisitions aside, the key relevant contribution to schedules by the UK PSBs (the BBC and the commercial players on their PSB channels) is in UK originations.[59] This category is in effect a proxy for the public-value outcomes secured by the PSB compacts governing the BBC and the commercial PSBs.

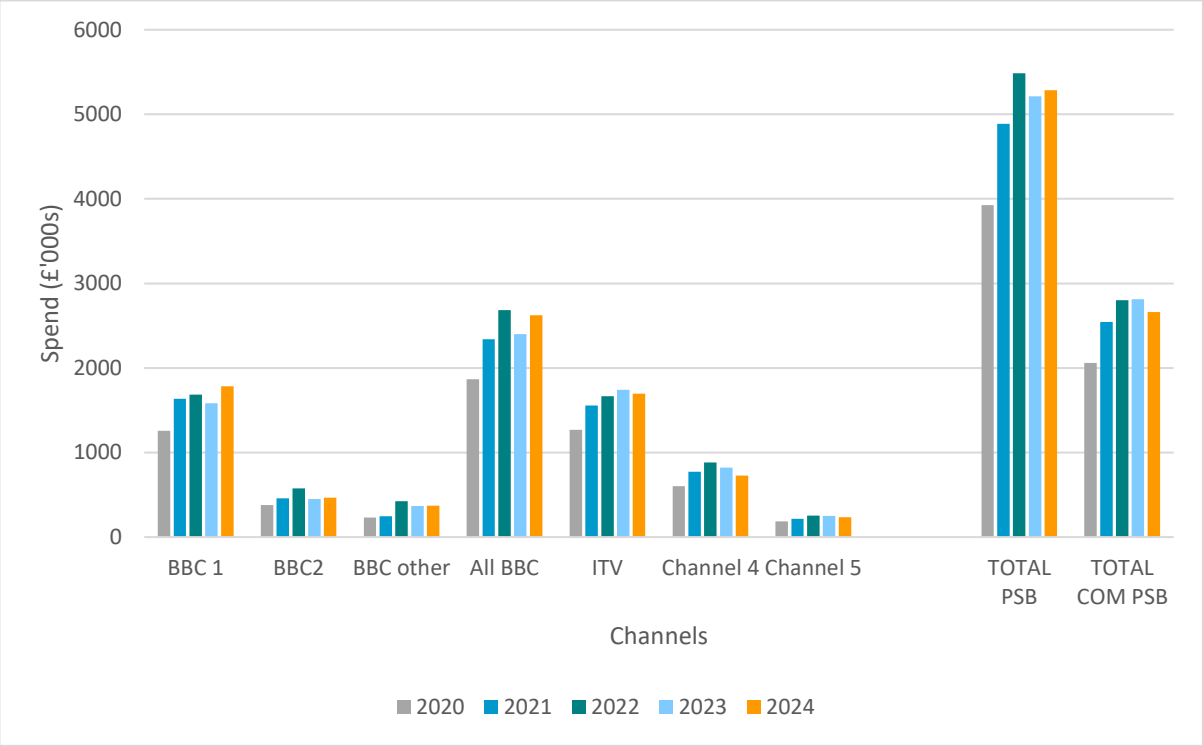
[56] These issues are further considered in section 6, under 'A new PSB compact.'

[57] The BBC has floated the idea of a 'media player device' developed by the BBC as one part of a solution on transitioning households to IPTV. https://www.bbc.co.uk/mediacentre/2025/director-general-sets-out-vision-for-bbc.

[58] The costs of an early transition have been calculated by EY but other recent reports have been silent on this aspect. See below for further discussion.

[59] Excluded here are expenditure on sports, regional programmes, general multi-channel propositions and schedules of the diginets of the commercial PSBs.

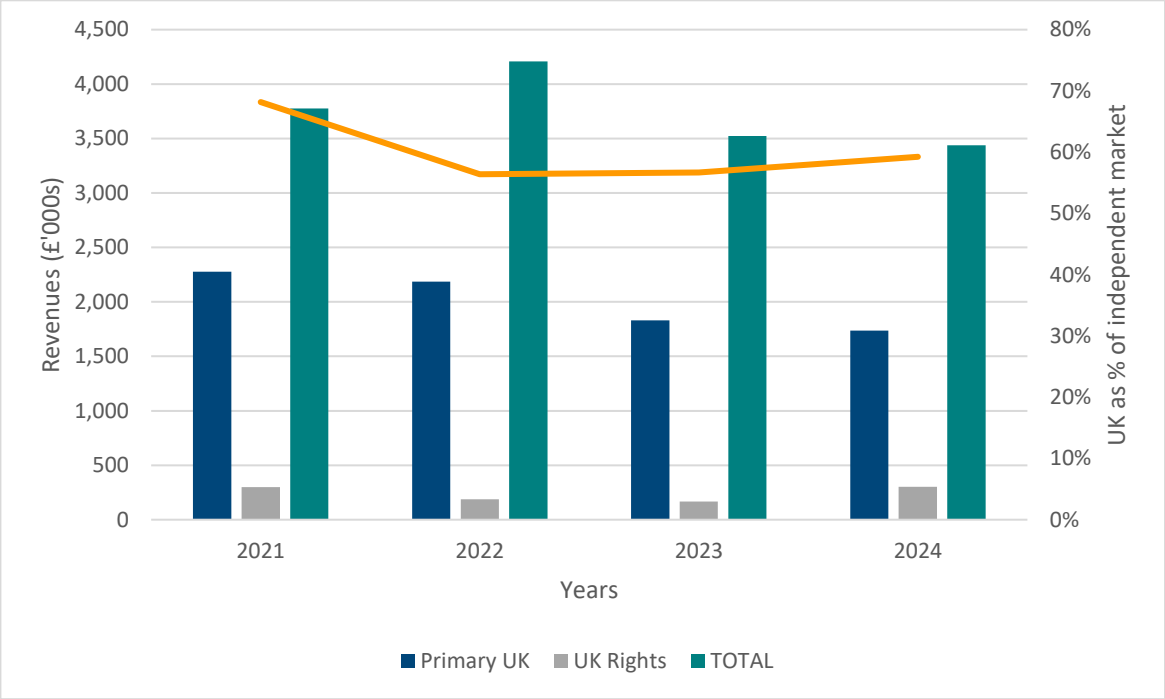
Figure 10: UK First-run Origination spend, 2020-24, £'000s (Ofcom CMR, Media Nations, 2025)



5.36 Also central to the role of the PSBs in the context of the content market is the extent of their support of the upstream supply chain – as key contributors to the revenue generation of independent production companies. The BBC and the commercial PSBs have obligations to commission from the independent sector.[60] Despite recent strong growth from international clients, including the digital SVOD/streaming companies, the core PSB commissions continue to be foundational to the financial health of the independent sector, representing substantially more than half the sector's total revenues in recent years.

[60] The Codes of Practice governing relationships between the PSBs and the supply sector were recently updated in response in part to the new Media Act (2025). https://www.ofcom.org.uk/tv-radio-and-on-demand/public-service-broadcasting/consultation-revised-guidance-for-public-service-broadcasters-on-commissioning-codes-of-practice.

Figure 11: PSB contribution to Independent TV Production Sector revenues, 2021-24, £'000s, % (Ofcom MN)



5.37 Any commercial revenue underperformance and/or pressures on the licence fee funding would have a deleterious effect on UK originations, the independent sector and the fulfilment of the PSB compact in general.

5.38 The other key cost in this review of PSB perspectives is for **distribution** – specifically, the current operating costs of delivering broadcast and on-demand content by the PSBs.

5.39 These costs are large and, in some categories, have been rising (with the increasing share of content delivered over IP, a key determinant of the medium-term cost curve).[61]

5.40 The BBC in 2024/25 spent approximately £200m on content distribution[62], of which around £100m was likely to be related to the costs of running its two multiplexes (PSB1 and PSB3) on the DTT platform. For ITV, Channel 4 and Channel 5, the DTT costs (on PSB2) are around £60m (this excludes the commercial contracts held by the commercial PSBs for capacity on commercial multiplexes) and before accounting for a charge made by Digital 3/4 to Channel 5.[63]

[61] These costs are incremental to those faced by households not yet paying for broadband at speeds capable of delivering a service that substitutes for broadcast. See further consideration of a range of distribution costs, including in any managed transition from DTT to IP, in the section outlining the implications of the options for the future of DTT, below.

[62] https://www.bbc.co.uk/aboutthebbc/documents/bbc-annual-report-and-accounts-24-25.pdf., page 64.

[63] The amounts paid by the PSBs to Arqiva for services on PSB muxes are commercially sensitive. Similarly, payments by the PSBs (and other broadcasters) to commercial mux operators are kept confidential. The price per slot on a 90% coverage mux has decreased significantly since 2005, however. The current price (average) across the commercial muxes for standard definition national distribution is believed to be around £3m, with capacity being offered today for lower rates in some circumstances.

5.41 Satellite transponder costs are estimated at £50m across the PSBs (including the +1 channels[64] distributed by ITV, Channel 4 and Channel 5).[65] The BBC's IP costs were around £65m (CDNs, edge caching, encoding, metadata, etc.). [66] There are no credible publicly available estimates for the expenditure on IP delivery by ITV, Channel 4 and Channel 5. If these commercial players had expenditure equivalent to the BBC's, adjusted for BVOD market share, their costs would be around £45m in the aggregate.[67]

5.42 In general, the BBC and the commercial PSBs have entered into a range of relationships with platforms and device manufacturers (Sky, Virgin, Samsung) with different value-exchange elements. The complicated nature of these arrangements is likely to include TPS payments and syndication of relevant content (for, e.g., carriage of ITV or Channel 4 services on Sky Q and Sky Stream).

5.43 Before considering the implications of a change to the distribution market (across the options under consideration by Government), a review of the future trajectory of the two key cost lines – content and distribution – is instructive.

Future cost profiles - content

5.44 For content, it is impossible to accurately predict precise outcomes given how the market, schedules and audience behaviours interact. For several decades, however, and despite the significant structural changes ushered in by new entrants such as Netflix, Apple and Google (YouTube) and the success of SVOD and AVOD models, origination content expenditure by commercial PSBs (i.e., excluding the BBC) has broadly converged to around c65% of core revenues.

5.45 Using this ratio as a guide and applying it to the forecast of relevant revenues (TV advertising and BVOD) over time, suggests content expenditure by commercial players might be around £2.1bn in 2040 and £2bn in 2045, compared to £2.7bn in 2024 (before inflation). This is before the BBC's expenditure on originations (around £1.5bn in 2024). If the external supply ratio holds, the independent sector can expect to receive around £1.5bn in primary commission income from the PSBs in 2045, compared to £2bn in 2024.

5.46 It is worth noting that these origination expenditure figures (and the follow-on impact to the independent sector) are important indicators of public-service value. Across the board, the ability of the PSBs to fund content to these levels is dependent on reaching a significant number of viewers and (in the case of the commercial PSBs) generating the commercial impacts that then can be sold to advertisers. Any under-delivery on revenue has a direct impact on the content market.

[64] ITV, Channel 4 and Channel 5 operated so called 'time-shifted' channels on Sky, Freeview and other platforms, broadcasting a simulcast of the relevant channel one hour later. The BBC does not operate +1s. These have proved a cost-effective means of increasing reach and viewing share in the competitive TV market.

[65] Transponder and other satellite costs are usually not made public. Channel 4 reported in its most recent annual report a figure of £7m for 'satellite transmission capacity costs'. Assuming higher charges for the BBC and ITV (owing to their regionalised services and taking into account the number of services), and a smaller charge for Channel 5, the total across the BBC and commercial PSBs would be £50m. This reflects lower prices over time and a change to portfolios (i.e., fewer regional +1 formats at ITV and a phasing out of SD simulcasts). https://assets-corporate.channel4.com/_flysystem/s3/2025-05/Channel%204%20Annual%20Report%202024%20-%20FINAL%2.0ACCESSIBLE.pdf, page 197.

[66] Author's estimates based on historical contracts and the 2024/25 BBC Annual Report. CDN costs are notoriously difficult to calculate and predict, owing to the extent of competition in the marketplace and the more recent trend toward self-provision by broadcasters. Note that the BBC also spends on 'digital product development' which is excluded here. See the National Audio Office report, *A Digital BBC,* 2022, A digital BBC.

[67] See annex 3 to Ofcom's Annual Report on the BBC 2023/24 for market shares across the BVOD, SVOD and video sharing markets. iPlayer delivers share in a ratio of 3 to 2 compared to ITV and Channel 4. Channel 5 share is grouped with 'other' players. See: https://www.ofcom.org.uk/siteassets/resources/documents/tv-radio-and-on-demand/bbc/bbc-annual-report/2024/annex-1-3-ofcoms-annual-report-on-the-bbc-202324.pdf?v=386327.

5.47 Also important in the context of evaluating the DTT options under consideration by Government are the future cost dynamics for distribution. These costs apply to the BBC and commercial PSBs on similar terms so are considered here together.

Future cost profiles - distribution

5.48 In the modelling informing the present report, there is assumed to be no further satellite distribution of broadcast channels to UK households from 2032, as Sky completes the migration of its subscriber base to IPTV and as Freesat is obliged to follow suit owing to its technical dependence on the Sky platform to operate. Virgin, too, will have substantially moved its base over to IP (it is currently targeting 2028 to complete the roll-out of its 'full-fat' fibre alternative[68]).

5.49 The key distribution platforms, therefore, will be whatever form of DTT is retained and the broader IPTV variants (managed and unmanaged).[69] A useful way to consider the profile of these costs is to ask what number of broadcast minutes would need to migrate from DTT to IPTV in the event that DTT was phased out altogether, for example in the course of the 2030s.[70]

5.50 The model informing this current report returns daily minutes of broadcast TV viewing in 2034 of 95 minutes, declining to 93 minutes in 2035, 84 minutes in 2040 and to 79 minutes in 2045. Some of this will be delivered via IP (live streaming in 2024 was a relatively small percentage of total TV viewing but is growing quickly).

5.51 In the model informing the present report, 60% of all daily minutes of TV viewing (live + 28 days) will be streamed rather than broadcast in 2035, rising to 70% in 2040 and 75% by 2045. This mirrors the growth in IP-enabled platform penetration and consumer behaviours but also reflects the high propensity of remaining DTT households to view TV via broadcast.

5.52 The resulting figure of daily minutes forecast to be distributed via DTT broadcast in the period 2035 to 2045 needs to be further discounted to account for a loss of market share when the same content is streamed via IPTV (where competition for viewing is greater). The effect works in both directions. When broadcast on DTT, channels enjoy a c15% premium reflecting the higher TV consumption in Freeview homes and the presence of fewer competitor channels. When content is streamed via IP, the competition is far greater in an IPTV household, with a discount applied to the status-quo forecast minutes of 20%.[71]

5.53 As consumption of competing services grows (new offerings from SVOD providers, growing market share of YouTube), there is reason to suspect the differential between DTT and IP might grow significantly from these levels.[72]

5.54 The share of TV minutes attributable to the PSBs (BBC, commercial PSB and commercial PSB portfolio channels) is fixed at 70% in line with their current market share, barring reasonable grounds to alter the assumption. The BBC delivers c45% of the non-multi-channel viewing.

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[68] https://www.libertyglobal.com/virgin-media-o2-announces-2028-full-fibre-upgrade-plan/.

[69] 'Managed' IPTV platforms incorporate Virgin IP, Sky IP (including Now TV) and Freely, alongside 'unmanaged' offerings from IPTV set manufacturers.

[70] In a 2025 report by PwC, commissioned by the BBC and Freely, the report's authors suggested that a phasing out of DTT 'in the 2030s' is a credible ambition – *albeit* confirm that there would be considerable costs associated with meeting this timetable (unquantified at this stage). The BBC in particular argues that considerable public value would be created by moving all households to IP, in the form of greater productivity, unlocking new services such as remote medical diagnostics, engendering more efficient delivery of public services, promoting better adoption of the benefits of artificial intelligence, etc. The lack of data on the costs of any early migration is covered in greater detail in our options review below. For PwC see: https://www.bbc.co.uk/aboutthebbc/documents/socioeconomic-impact-of-digital-transition-june-2025.pdf.

[71] The same premium and discount assumptions used in relation to foregone advertising revenues are applied before calculating IP delivery costs. As with the advertising module, no separate account is made for the delivery of regional TV content.

[72] A levelling off in the take-up of SVOD services has been addressed in part by the launch of new tiers – and in particular, ad-funded access to, e.g., Netflix.

5.55 It is difficult to predict how the delivery market for content via IP will evolve in the long term. Currently, there is significant competition in the CDN market, for example, and prices have reduced. BT (and others) are developing multicasting propositions to assist broadcasters by delivering multiple channels close to end-user addresses before delivering 'last mile' via unicast. At the same time, broadcasters are themselves developing in-house CDN capabilities, servers and edge caching in a bid to control costs.

5.56 If the delivery market remained unchanged, costs for delivery of streamed 'linear over IP' would increase with volume of content delivered, as each stream would need to be unicast. However, for a host of reasons, while it is likely that IP charges will follow an upward trajectory to account for volume, a series of innovations (including the introduction of multicast propositions in the supply chain and the increase in self-provision of virtual CDNs by the broadcasters themselves) can be expected to reduce per-stream costs over the period.

5.57 Nonetheless, it should be borne in mind there is a risk that costs may in fact increase. The ability of internet service providers ('ISPs') to set prices for delivery in the absence of either reliable net neutrality protections or explicit undertakings to assist in the safeguarding of PSBs in an all-IP future will be of concern to broadcasters over the longer term.[73]

5.58 In the base case informing this report, it is assumed that IP streaming costs per minute of viewing decline by 50% between 2024 and 2035 (not accounting for inflation), with the lower level achieved remaining stable thereafter. Other assumptions are, of course, credible.

5.59 In 2024, according to the NAO, c15% of the BBC's TV viewing was delivered over IP.[74] If this is extended to all PSBs (absent detailed data from ITV, Channel 4 and Channel 5) and applied to the estimate of £110m in 2024 of IP delivery costs for all the PSBs, the annualised cost per minute of IP delivery was £5.9m.

5.60 Applying the 50% decline in IP delivery costs, the ratio drops to £2.9m by 2035.[75]

5.61 If it is assumed that all viewing is via IP from 2035 (in the absence of DTT and satellite) and that 60% rising to 75% of all minutes of 'live' TV is streamed, it is possible to identify the number of daily minutes of TV viewing that would need to be delivered over IP in a counter-factual of no DTT distribution. The incremental IP costs modelled here, therefore, reflect the delivery of those minutes that would have been broadcast but are now being streamed over IP, in the absence of DTT.

5.62 In 2035, 93 minutes of live (+28 day playback) daily TV is forecast. Of this, 60% is assumed to be streamed. The remainder, 37 minutes, is adjusted by 15% for the loss of DTT premium and by 20% for the increased competition associated with IPTV, for a net daily figure of 24 minutes. Of this, 17 minutes are of PSB content (based on current market shares).

5.63 Using these assumptions, and applying the platform penetration forecasts over 10 years, these calculations produce a forecast for future viewing and the implications for IP delivery costs. The results are summarised in the table overleaf.

[73] The contours of a new PSB compact are addressed in the final section of the present report.

[74] https://www.nao.org.uk/reports/a-digital-bbc/. The BBC reports a figure of 23% of 'TV viewing' via iPlayer; this appears to include all on-demand consumption as well as live streaming.

[75] In its report on the Future of TV, *op. cit*., EY estimated a cost in 2040 of £130m to deliver c35 incremental minutes of daily TV content over IP. This represents £3.7m per minute, annualised, on an equivalent basis to the estimates used in the present report, representing a unit cost nearly 30% higher.

Figure 12: Incremental IP delivery costs (before inflation) if DTT is replaced by IP from 2035 (current report)

	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Daily minutes of viewing	93	91	89	87	86	84	83	82	80	79	78
% delivered via streaming	60%	62%	64%	66%	68%	70%	71%	72%	73%	74%	75%
Minutes delivered over DTT	37	35	32	30	27	25	24	23	22	21	20
Implied minutes after DTT premium (15%) and IP discount (20%)	24	22	21	19	18	16	16		14	13	13
PSB share (including BBC)	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
Total incremental minutes of PSB streamed content	17	16	15	14	13	12	11	10	10	9	9
Cost per minute, annualised (£m)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Total incremental IP bill - no DTT (£m)	**49**	**46**	**42**	**39**	**36**	**33**	**32**	**30**	**29**	**27**	**26**
Cumulative (£m)	**49**	**95**	**137**	**176**	**212**	**246**	**277**	**308**	**336**	**364**	**389**

5.64 The yearly cost of the incremental IP bill declines over the model period in line with the 'natural' migration of viewing from broadcast to IP, from £49m in 2035 to £26m in 2045, representing cumulative costs of £389m over the 10 years.

5.65 Note that while the BBC is not affected directly by the 'foregone' commercial revenue calculated in this report, it will be fully exposed to the cumulative impacts of incremental IP costs.[76] Using current market data as a guide, the BBC's share of the incremental burden from 2035 to the mid-2040s is £183m.

5.66 For ITV, assuming current market shares, ITV's incremental IP costs in the event of a DTT switch-off from 2035 is £115m over 10 years, with Channel 4 on £55m and Channel 5 on £37m.

5.67 Ignored here are other advantages of DTT (PSB control over the EPG policy on Freeview, for example) and the unknowable but potentially important costs associated with a change in regulatory compact under which access to DTT is replaced by access to IPTV platforms, where a number of new concerns are likely to arise. These new concerns might include the erosion of implied net neutrality protections, the unregulated costs of IP delivery over time, and power imbalances between platforms and suppliers regarding must-offer/must-carry obligations.[77]

5.68 The overall value of a reformed PSB compact with DTT still at its foundation is directly addressed in the next section, where the options under consideration by Government are specifically reviewed.

<u>The perspective of non-PSBs, citizens and Government</u>

5.69 In addition to the PSBs themselves, there are a number of other categories of stakeholder whose views will have to be considered in any change to distribution policy UK wide.

5.70 For example, several **broadcasters have a stake in DTT and no PSB status,** including Comcast-Sky-NBC Universal, Narrative TV (now owners of the Sony TV channels), QVC, Discovery and Legend. In addition, Five's owner Paramount Global operates a number of channels with distribution via Freeview, including CBS

[76] The BBC does have an indirect stake in foregone revenues of the non-PSB broadcasters, via its ownership of UKTV. It is also possible that a change to the BBC's commercial freedoms as part of Charter Renewal might mean the BBC itself becomes directly affected by the foregone revenues implied by an early shift away from broadcast in favour of IPTV.

[77] These issues are discussed in greater detail at the end of this report.

formats, and music, lifestyle and kids brands. UKTV, wholly owned by BBC Studios, also has a major presence on DTT.

5.71 Finally, there are several adult, religious and news channels on Freeview, while a number of audio broadcasters use Freeview to distribute radio services.

5.72 It is worth recalling that the DTT network contributes to the ability of FM and Digital Audio Broadcasting ('DAB') radio stations to broadcast across the country; the network also delivers emergency service communications and a range of other services across multiple sectors, all of which could be put at risk if DTT was turned off early.[78]

5.73 In summary, any change to DTT capacity/availability will thus have an impact on a wider range of players than those that are the focus of the present report. These many non-PSB players compete with the portfolio channels of the PSBs (which, with the exception of the BBC's channels, do not have PSB status) for capacity on DTT. In the absence of DTT (or in options where DTT is reduced in scale), these players are likely to incur additional costs if they intend to continue to distribute to the bulk of UK households.[79]

5.74 Cost categories directly affecting **citizens/consumers** under various scenarios need to be considered, namely: 1) incremental costs of broadband connectivity (i.e., the need to subscribe to a service able to deliver substituted services in the event DTT is no longer available and where no broadband connection is currently active); and 2) the costs of equipment (at the very least an IPTV-compatible TV and/or connected device permitting the streaming of broadcast and on-demand PSB content). Note that Government may elect to meet some or all of these costs for certain categories of viewer (determined by age, disability, income or location, for example).

5.75 Depending on the timing and characteristics of any managed transition from DTT to IP[80], the key costs facing **government,** therefore, are: any administration requirements to meet conditions for public assistance (e.g., determining need); the actual cost of consumer equipment and the annual broadband charges in the event these are to be wholly or partially covered by the state; and the costs of a public awareness programme to alert viewers to pending changes in the way in which TV is delivered.[81]

[78] Other non-TV users of the DTT transmission network include: energy and water utilities for smart meters; transport operators (ports, ferries, rail and road agencies); government departments; mobile and telecoms operators; and ancillary service providers (including of security networks and broadcasting-related functions).

[79] Today, there is a vibrant market for commercial capacity on DTT, with slots offered by Arqiva (on two multiplexes COM5 and COM6), ITV's SDN (COM4) and local multiplexes with sub-national footprints that carry local TV stations and lease free capacity to third parties. All mux operators pay Arqiva as the transmission company, with the commercial multiplexes generating £75m to Arqiva in 2024. Slot prices on the commercial national multiplexes (90% national coverage) reached a high of £12m in 2005. The current price (average) across the commercial muxes for standard definition national distribution is believed to be around £3m, with capacity being offered today for lower rates in some circumstances. The PSB muxes deliver to 98.5% of households, using more expensive relay transmitters.

[80] The costs and complexities of the switch-over transition itself are not specifically analysed in this report. It is worth noting, however, that a transition of this magnitude, particularly if undertaken at a time when the number of households requiring assistance is large, will not be straightforward. The digital switch-off programme of 2006 to 2012, securing the phasing out of analogue TV, required detailed planning, re-regulation, and several years of activity even for a relatively simple change of device and/or aerial.

[81] These costs have been reviewed in some detail in EY's report for Broadcast 2040+, where they estimate one-off costs (new IP connections, home equipment, marketing and awareness campaigns) of £2.1bn and ongoing costs of £1bn each year (including incremental broadband subscriptions, IP delivery costs as described above and direct support for vulnerable households). The PwC report for the BBC and Freely, as mentioned, does not estimate these switch-off costs but concedes Government must review these prior to any decision on a transition plan.

6. DTT options and the future of PSB: key recommendations

6.1 In providing guidance to Government on potential options[82] Ofcom wrote of the need for "[u]rgent clarity on how TV will be distributed in the future. The PSBs are required to be universally available. As viewers increasingly move online, they have to broadcast over…DTT while also investing in distribution across multiple platforms. In this context, delivering content over DTT is quickly moving from being one of the PSBs' most valuable benefits to a significant cost. These resources could otherwise be used to both create PSM content and experiment with strategies for engaging all audiences in a rapidly evolving sector."

6.2 Ofcom has suggested that a decision on the direction of travel is needed by early 2026 to ensure that all stakeholders can efficiently plan for the future. It professed no preference as to the future of DTT among the options it set out. However, it made it clear that the existing regulatory compacts, given current and projected costs and viewing trends, were likely unsustainable.

6.3 Ofcom's three options were presented as follows in its 2024 report on the future of TV.[83]

Investment in a more efficient DTT service – a more efficient, but full DTT service could be an option if audience scale and investment could be sustained over the 2030s. This option may well include supporting audiences with new equipment for more efficient broadcast signals.
Reducing DTT to a core service – the DTT platform could retain a minimum number of core channels – for example the main public service and news channels. This would mean viewers mainly using the internet to access TV services, while also maintaining infrastructure that could deliver radio or TV (including if there are internet outages). It could be done as a temporary transition to a fuller switch off or remain indefinitely as a provider of last resort.
Move towards DTT switch-off in the longer term – a planned campaign to ensure people are confident and connected with internet services, so DTT could be switched off. It would take careful planning to ensure universality of public service media, with support for people so that no-one is left behind. This could have wider benefits for digital inclusion in other areas of society.

6.4 The Government is now actively reviewing the options, having commissioned reports and consultants, and having set up working groups attended by industry stakeholders as part of its Future of TV Distribution Stakeholder Forum.[84]

6.5 In the present report, it is stipulated that the challenges arising from changes in technology, evolving consumer behaviour and increased competition will render the current model, with six national DTT multiplexes, increasingly unsustainable. In this context, the status quo, even if accompanied by a reform in the funding of the BBC to ensure its relevance into the 2040s and changes to the commercial PSB compact (in particular around prominence, and the relationship between PSBs and platform operators) is unlikely to be fit for purpose in any future licence period.

6.6 Nor does the second option as described by Ofcom serve all that well over the medium to long term. A quick move to a 'night light' arrangement would leave many households under served and worse off if they did not elect (or could not afford) to migrate. It would also unnecessarily restrict channel choice for viewers and potentially might generate competition challenges from commercial non-PSB channels if the latter are disadvantaged relative to the PSBs.

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82 https://www.ofcom.org.uk/siteassets/resources/documents/public-service-broadcasting/public-service-media-review/transmission-critical-the-future-of-public-service-media.pdf?v=400631.

83 https://www.ofcom.org.uk/tv-radio-and-on-demand/public-service-broadcasting/future-of-tv-distribution.

84 https://www.gov.uk/government/publications/future-of-tv-distribution-stakeholder-forum-terms-of-reference/future-of-tv-distribution-stakeholder-forum-terms-of-reference.

6.7 It is the conclusion in this report that maintaining optionality around a move toward a DTT switch-off in the long term is the correct route forward, permitting, if desired, a managed transition to an-all IP system over a sensible timeframe (most likely in the mid-2040s) and netting benefits and disbenefits dispassionately across all key stakeholders (viewers, the BBC, commercial PSBs and a range of other parties).

6.8 In some iterations of such a policy, Government could proceed with an early auctioning of significant cleared capacity as early as 2035, leaving in place a slimmed-down DTT platform (most likely three national multiplexes) for a further transition period, to ensure the best trade-off for viewers and the PSBs.[85]

6.9 The Exeter Report commissioned by DCMS suggests a full digital switchover (DSO) might be achievable sometime in the 2030s given market trends around behaviour, and technology and device adoption.[86] The BBC has come to this same (preliminary) conclusion. In support, it has commissioned (with Freely) an analysis that identifies a gross positive impact on the UK economy of more than £30bn[87] due to the upside associated with overall digital connectivity (in productivity, employment, tax receipts, lower benefit bills and social benefits more widely across sectors).

6.10 A note of caution is needed here. There is a risk of conflating the value of IP connectivity overall in society at large with the value of delivering TV over IP specifically. While it may be true that a managed transition to IPTV might encourage a move by all households to fixed-line IP, thus contributing to the unlocking of the GVA specified by PwC, the IPTV transition itself does not generate the upside of connectivity more broadly across society.

6.11 With ubiquitous fixed IP connections it is assumed that more and more interactions (with Government, the NHS, the jobs market) will be via IP, but not necessarily all. It is also the case that many of these benefits will be unlocked in any event given widespread mobile smartphone use. Mobile services are often more suitable for many online applications (e.g. booking NHS appointments, banking) but do not reliably replace broadcast.

6.12 In the case of IPTV, the approach tends to be binary and presented as a time-critical requirement. As argued in the present report, a sensible timeframe, and a period where both broadcast and IP continue to co-exist (as they do today) until the optimal switch-over point is determined, is likely to be the better option.

6.13 PwC argues that the benefits of an early move include: unlocking the GVA uplift sooner; pre-empting the need to refresh and upgrade the DTT network beyond a minimum level; and earlier receipt by the Exchequer of the proceeds from auctioning off spectrum release through the closing of DTT. PwC confirms, however, that delaying a transition has advantages too, namely: "[r]educed cost of managed transition" and "smaller number of people with potential to be adversely affected."

6.14 In any event, that decision cannot be reliably made without understanding the net costs of an early (and total) transition. The PwC report does not address the real costs associated with achieving a transition to fixed IP and specifically confirms that an early transition comes with some risks and higher costs. The benefits, however, would still be available to a large degree even if switch-over is delayed by a decade.

[85] In some scenarios, the 600 MHz spectrum could be cleared and auctioned to mobile operators – for example, to improve 5G coverage and service levels. That band is currently used for mobile broadband in Canada and the US.

[86] The Exeter authors suggest that a shared use of spectrum from 2035 (TV and mobile, for example) might be possible but would likely require a transition to DVB-T2/MPEG-4 mode to ensure Freeview remained compelling in any interim period before (eventual) switch-off. This is similar to the conclusions in the current report, outlined below.

[87] Among other indicators of value, PwC has identified an incremental gross value added ('GVA') quantum of between £21.2bn and £30.8bn.

The case for a reduced DTT platform and an end date in the 2040s

6.15 As discussed in some detail earlier, the number of households likely to be using Freeview to watch broadcast channels on a main set in 2034 is significantly higher than suggested in analysis and forecasts from MTM-3Reasons (used in turn for both the Ofcom and DCMS-commissioned Exeter Report).

6.16 In the modelling undertaken for the present report, the number of households needing attention in any managed transition is c5.4m in 2034, and 2.9m in 2045.[88]

6.17 In terms of consumption, the number of daily minutes of BARB definition TV viewing, driven by demographic changes and fully accounting for inter- and intra-cohort effects, is 95 minutes in 2034 and 79 minutes in 2045.

6.18 By 2035, Sky is expected to have closed its satellite service entirely, while Virgin will have made significant progress in transitioning its cable network base to fibre, leaving DTT and IPTV as the two relevant platforms for the delivery of TV.

6.19 Even if the prospect of a six-national mux DTT platform is discounted (given technology and behavioural trends, and issues of cost effectiveness), it is worth asking what might be an optimal (and cost effective) transitional platform to serve the UK market from the end of the current contract period for most mux operators (2034) to an end date when the entire DTT platform is finally switched off (sometime in the mid-2040s or beyond).

6.20 As a reminder, the current national mux line-up has the BBC with two multiplexes (PSB1 and PSB3, the latter configured for DVB-T2/MPEG-4 and carrying all the PSB main services in HD), ITV and Channel 4 with one (on which Channel 5 is a tenant), and four commercial muxes (COM4 owned by ITV's SDN, and COM 5 and 6 owned by Arqiva). There are also services in Northern Ireland via Nimux and for local TV through Comux, both of which use a smaller number of sites.

6.21 PSBs currently pay £160m a year for the PSB mux transmission contracts with Arqiva including electricity, with around £75m paid by commercial mux operators.[89] This underscores the relatively high costs associated with PSB delivery (via 1,154 sites to deliver universal coverage of 98.5%) compared to the commercial mux coverage of 90% across 80 main sites. Note that commercial operators, in turn, are able to charge a market rate for slots on their muxes. The market rate is believed to be around £3m p.a. on average, with new capacity sometimes being offered today at lower rates in particular circumstances.

6.22 The BBC, ITV/STV, Channel 4/S4C and Channel 5 are awarded 'gifted' berths on 98.5% muxes. In any reduction in DTT for a transitional period, it is assumed here that the main channels would need to be receivable in nearly all households (to meet universality commitments) with the prospect of distributing portfolio channels on one or two commercial multiplexes. This is to ensure they offer universal coverage until such time as IPTV, following a managed transition, can take up the challenge of delivering a truly universal service.[90]

6.23 If it is assumed that all national muxes from 2035 are in the upgraded DVBT-2/MPEG-4 mode (providing more channel capacity, HD quality, or a combination of both[91]), the number of services that could be carried is varied, and depends on the mix of SD and HD and the balance of PSB distribution muxes (to 98.5% of households) and commercial (90%).

[88] It is noted that some of these HHs will have broadband connectivity to minimum required speeds **available** but for a number of reasons (behavioural, educational, financial) not **used for linear channel consumption.**

[89] The actual figures are not published. These estimates are based on a reading of the BBC disclosures in the past annual reports and reviews, and other market intelligence.

[90] The need for a new regulatory compact between PSBs and IPTV providers is reiterated in the conclusions to this report below.

[91] The original mode for DTT was the DVB-T standard. The BBC and Arqiva collaborated in migrating the BBC's second multiplex to the higher-capacity DVB-T2 standard (available from 2010), to permit HD channels to launch on Freeview. Given manufacturers' adoption rates and TV replacement cycles, most Freeview households are now equipped for DVB-T2. Owing in part to the timing of the Charter Renewal process, the BBC has yet to confirm it will renew its PSB3 (HD) mux contract.

6.24 It is worth considering what the optimal DTT provision might be given the need for a critical mass of services and adequate costs savings to compensate PSBs for their continued use of DTT.

6.25 For the current report, it is assumed that the costs of upgrading the current six-national mux network would not be cost effective in a context where the market is moving (over time) to IP delivery and where DVB-T2 provides more capacity per multiplex. Conversely, limiting an extension of the DTT platform to just one or two multiplexes would so reduce the quality and appeal of Freeview that it would be counter-productive.

6.26 A more practical solution is to retain three national muxes for DTT from 2035 and to ensure all three are in the higher capacity DVB-T2/MPEG-4 transmission standard. This would provide two benefits: 1) adequate capacity to ensure an attractive Freeview proposition for any interim period[92]; and 2) the prospect of clearing enough spectrum to permit the whole of the 600 MHz band to be cleared from as early as the end of 2034 and auctioned much earlier with certainty, irrespective of any switch-off date for DTT thereafter.[93]

6.27 While other outcomes are credible, the focus of the current analysis has been a three-mux national solution for the extended period, which provides for a critical mass of channels; the prospect of all the PSB main channels being available in HD; adequate capacity for portfolio PSB channels and some commercial channels; and cost savings for the PSBs to set against the growing expense of IP delivery. It also gives Government the option to move toward setting an end date for DTT at some point in the future.

6.28 To maximise savings for the BBC, in particular, (which currently holds two PSB muxes) the split of the three national muxes might be one PSB mux and two commercial muxes. For example, the BBC might agree to 'carry' the main services of ITV, Channel 4 and Channel 5 on a PSB (HD) multiplex, while any remaining portfolio channels of the PSBs seek carriage on a portion of the PSB mux and/or on commercial multiplexes at commercial rates.[94]

6.29 No attempt has been made here to predict what entity might take up the commercial muxes from 2035 (it worth recalling that both Arqiva and ITV's SDN currently operate commercial muxes). It may be that the commercial PSBs elect to reduce their channel portfolios to reduce distribution costs. However, the significant contribution of extension channels to the BBC (in terms of reach, ratings and relevance) and to the commercial PSBs (specifically in revenue terms) should not be underestimated, even into the 2040s.

6.30 The savings on offer from Arqiva by reducing from six to three national muxes are considerable. The PSBs might see a reduction in their bill greater than 40% in some scenarios, including a charge for electricity, taking into account necessary technical upgrades and changes (e.g., from DVB-T to DVB-T2 mode). There is also scope for the integration of these upgrades with a 600 MHz clearance programme.[95] Across all the PSBs (all BBC services plus main ITV, Channel 4 and Channel 5 channels), the resultant bill (in 2024 prices and assuming a discount from current levels of more than 40%) might be £90m compared to £160m currently.

6.31 Disregarding inflation, the costs of extending DTT for a further 10 years from 2035 could thus be around £900m across all the PSBs. This would unlock two sets of value calculated in this report: £768m in foregone advertising revenues protected (across the commercial PSBs) and £389m of avoidable IP delivery costs

[92] For example, there would be capacity available for 14 HD channels and 84 in SD – among many potential combinations. That would likely result in an attractive Freeview proposition in an interim period post-2035.

[93] Indeed, an earlier and complete switch-over (e.g., in 2035) might generate further delays in clearance compared to the option laid out here, as the Government would wait until DTT was shut down completely before proceeding. A managed process with a switch-off in the 2040s gives certainty for adequate investment to be undertaken in the transitional period and sets a transparent, deliverable timetable for earlier 600 MHz clearance.

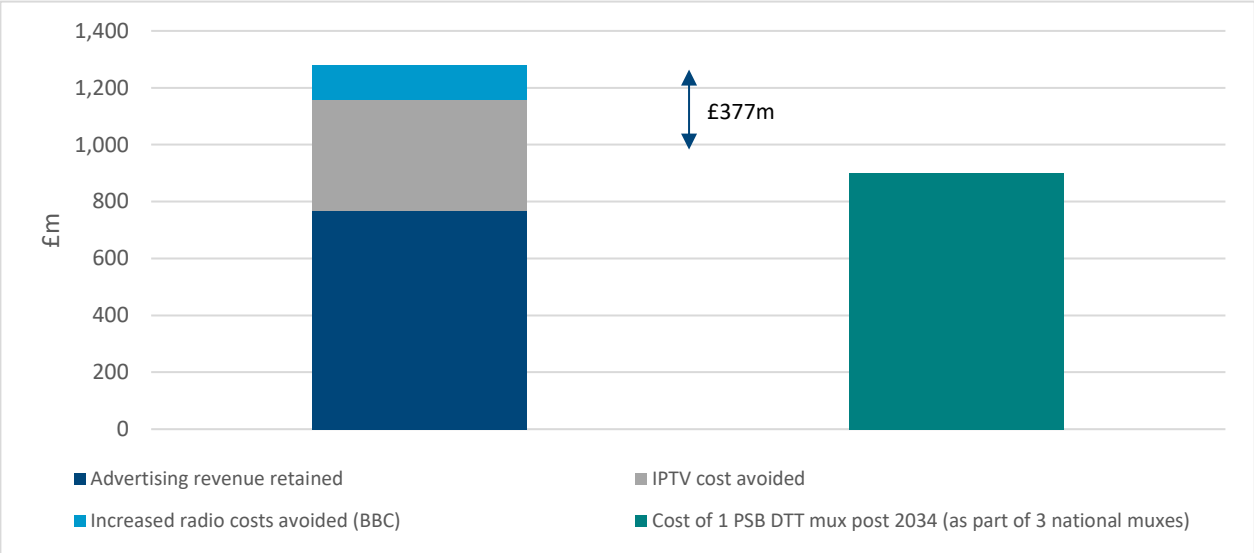
[94] Conversely, the PSBs may wish to continue with two PSB muxes, allowing all portfolio channels to be distributed to 98.5% of households. The remaining commercial mux would be offered to third parties. This would not, however, unlock as much in the way of cost savings for the PSBs.

[95] It should be noted that the costs of clearing the 600 MHz spectrum itself is assumed to be met by Government through the proceeds from a spectrum auction. Greater savings would be possible for the PSBs if those elements of the technical refresh required to enable the clearance are included within the Government-funded programme.

(across all PSBs, including the BBC), for a total of £1.157bn. This excludes the benefits to UKTV for BBC Studios; any impact on the BBC of having itself to meet the costs of an early transition to IPTV; or the increased costs to BBC radio provision it would face if DTT was turned off (estimated at around £12m per year). If avoided radio costs for the BBC are included, the total benefits are £1.277bn. Set against revised PSB-wide costs of £900m over 10 years, the net upside would be £377m.

6.32 As they pertain to all PSBs, the benefits and costs of extending DTT for 10 years from 2035 are summarised here.

Figure 13: Cumulative financial benefit of avoiding early switch-off for the PSBs, over 10 years, £m (current report)

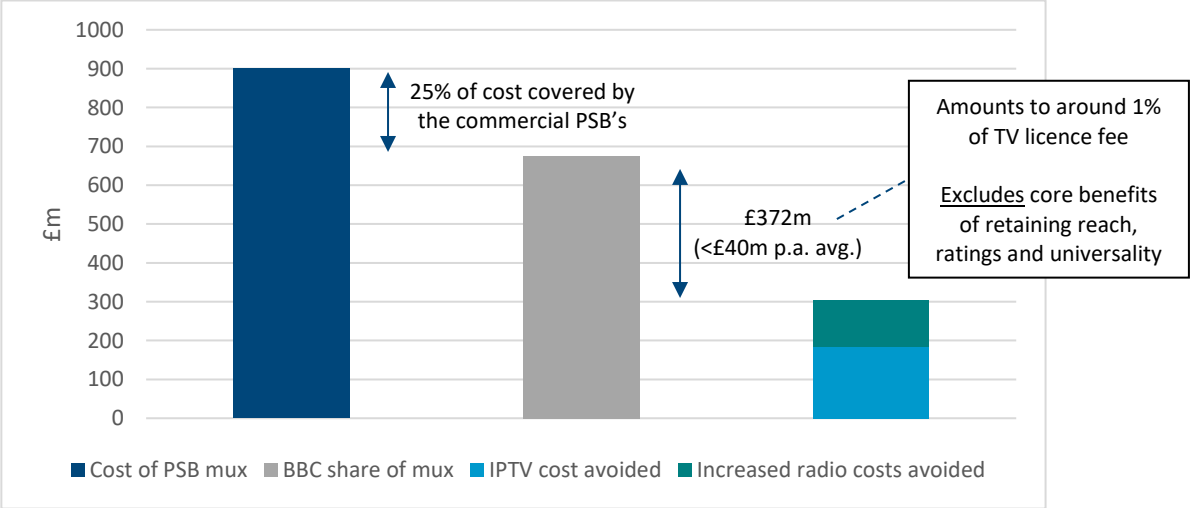


6.33 If the BBC were to retain 75% of a PSB mux post-2035 for its own services (e.g., five channels in HD), the remaining capacity would be available to the commercial PSBs (in HD for their main channels and in SD for some or all portfolio services, for example).

6.34 The BBC's savings from avoiding incremental IP costs would be £183m and from avoiding costs of radio would be around £120m, against a revised DTT cost of £675m (75% of the assumed PSB charge of £900m). The net cost of £372m (less than £40m a year) would be around 1% of the TV licence fee in the period 2024-25 (£3.8bn).

6.35 As they pertain to the BBC, the benefits and costs of extending DTT for 10 years from 2035 are summarised here.

Figure 14: Cumulative financial impact of extending DTT for the BBC, over 10 years 2035-45, £m (current report)



6.36 This does not reflect any upside from UKTV, nor the value retained by the BBC that is not monetised (given the BBC's public funding), such as safeguarded reach and viewing share, and the justification for continuing with a public-funding model.

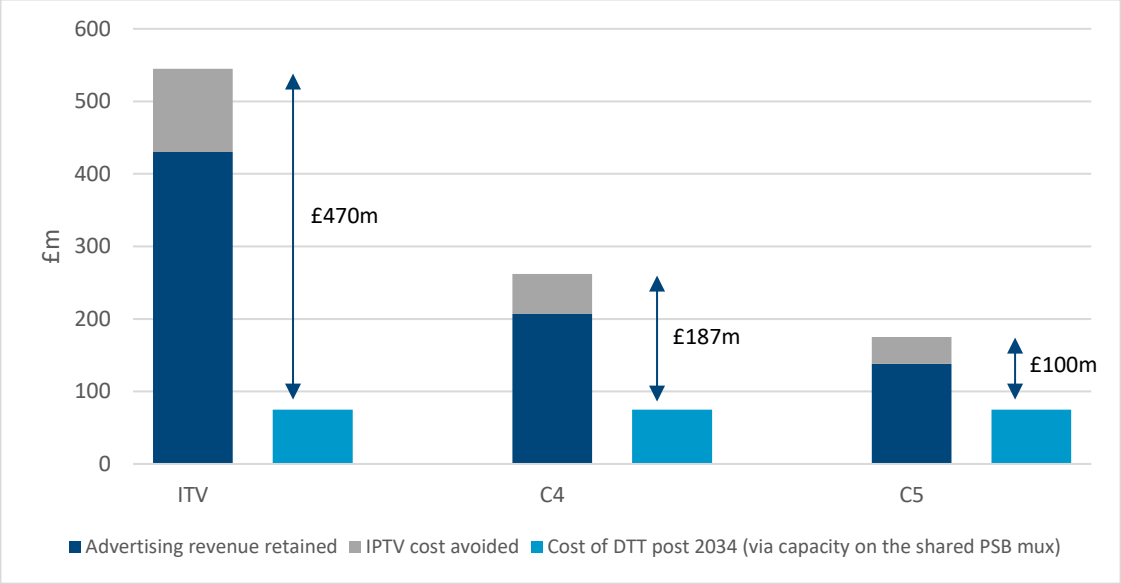
6.37 For the commercial PSBs, they could either share equally in the remaining capacity on the PSB mux, for a total of £7.5m a year each, pay in line with market share, or some other form of negotiated settlement.

6.38 For ITV, the cost on this basis could be between £7.5m and £12.6m per year, with Channel 4 liable for £6-£7.5m and Channel 5 for £3.9m-£7.5m. Each may choose to purchase additional capacity on the commercial multiplexes as required for channels to deliver audience and advertising revenues.

6.39 ITV's benefits over 10 years (foregone revenues of £430m and avoided incremental IP costs of £115m) total £545m, compared to the revised DTT cost of £75m-£126m. For Channel 4, the upside is £262m (£207m plus £55m), against DTT charges of £60m-£75m. For Channel 5, the benefit totals £175m (£138m plus £37m), against a DTT capacity cost of £39m-£75m.

6.40 As they pertain to the commercial PSBs, the benefits and costs of extending DTT for 10 years from 2035 are summarised here (assuming capacity costs are shared equally).

Figure 15: Cumulative financial benefit of avoiding early switch-off for the commercial PSBs, over 10 years, £m (current report)



6.41 In the case of the commercial PSBs, a range of benefits of an extended DTT are not accounted for here, including the value of DTT EPG management and the cross promotion provided to Freely and their BVOD players, for example.

6.42 As stipulated above, a sensible transition to IP is an advantage to the whole of the UK, and TV can play a role in converting households to IP. However, moving too early risks leaving behind millions of TV viewers and eroding (unnecessarily) some of the clear benefits that DTT continues to confer on the BBC and the other PSBs.

6.43 Moreover, extending the lifespan of DTT into the 2040s (and indeed beyond) does not endanger the dividend that an all-IP environment promises and it could still be positioned as a part of an eventual transition, thus fitting with the BBC's overall public positioning on this issue. The value would be very nearly as great in the mid-2040s and the net costs of achieving the transition from DTT to IP would be less.

Summary: the advantages for PSBs:

- Certainty of delivering on universality requirements under PSB status – particularly important for the BBC as it secures justification for a universally applied licence fee (even if subject to reform in the current Charter discussions)
- PSB-wide savings on DTT distribution in the medium term of more than 40% in some scenarios (assumed in this analysis to result in a charge of around £90m annually), alongside windfall benefit of zero satellite costs (compared to £50m currently) and a savings of a cumulative £389m in avoided incremental IP delivery costs if channels continue to be distributed via DTT between 2035 and 2045.
- Capacity to maintain distribution footprint for diginets at cost-effective levels
- The value of the 'Freeview viewing effect' – worth cumulatively £768m to the commercial PSBs between 2035 and 2045); thus, no financial need for the PSBs to unnecessarily accelerate their own disintermediation to an all-IP environment
- A further 10 years of operating the Freeview platform, where the PSBs control the EPG platform, and make key decisions about the timing and extent of technical upgrades
- The value of driving viewers to BVOD services via Freeview/Freely, unlocking premium advertising revenues and strengthening content brands in a competitive environment
- Avoidance of alienating viewers/users/citizens being obliged to migrate before they are comfortable doing so (especially at regional level and among disadvantaged groups) – of particular importance to the BBC with its access to public money
- Certainty that the transition to an all-IP future will occur as subject to industry and Government agreement – so time to adjust/adopt/adapt digital strategies accordingly
- Transition to occur at a later date when more households have made the move to fixed IP of their own accord (cheaper for Government and less pressure – potentially – on diversion of BBC income to pay for an early transition and fewer negative implications for commercial PSB)
- Time to agree a new PSB compact for the period from 2035 – locking in a reliable balance of benefits and disbenefits, and stronger protections for PSBs against digital native gatekeepers[96]

Summary: the advantages for Government:

- Consistent with a commitment to PSB objectives around content, balanced and impartial news ensuring an informed citizenry, and support for the creative industries
- Policy is friendly to all viewing groups (IPTV users unaffected while DTT-reliant groups accounted for)
- Universality safeguarded and the role of the BBC as a universal, publicly funded provider underpinned
- Meets ambitions around equity, fairness, efficiency
- Broadcasters continue to be able to out-perform on broadcast and on demand from secure competitive berth on core TV platform (more profitable and able to make greater contributions to the Exchequer)
- Migration from 2035 to conclude in the mid-2040s (or later) is cheaper (market trends more pronounced by then) so any awareness campaign, device subsidy or assistance to digitally challenged or poorer households more manageable

[96] These advantages are consistent with key planks of the statement by the PSBs at the Royal Television Society in September 2025 – notably on the need for firmer protections on prominence and relationships with digital platforms and on the need to co-ordinate a transition to IP that does not leave viewers behind. On the latter point, the PSBs said: "We need a managed transition to our TV future. Government and industry should prepare now for a switchover to internet-delivered television, which requires a clear commitment from ministers. The opportunities for audiences are huge, and there are vast broader benefits to be unlocked from a fully connected Britain. But we must ensure we support those who are not yet connected, so we don't leave people behind." https://www.broadcastnow.co.uk/comment/psb-chiefs-these-measures-can-help-secure-distinct-british-broadcasting-for-the-future/5209035.article

- Transition to three muxes secures 600 MHz band for early auction to mobile operators (directly benefiting Exchequer) and provides certainty on the planning and release date – as early as the end of 2034
- Mitigates short-term challenges for other users of the DTT critical national infrastructure including radio, emergency services, and other government and commercial users around the UK (although these users will need to be accommodated even if the switch-over is delayed to the 2040s)
- Upstream producers further protected from extension of PSB compact into the 2040s, helping the creative industries and more broadly UK PLC; further underpinning UK content which is still highly reliant on PSB clients
- GVA contribution as detailed by PwC still significant but costs of delivery are less and political tensions significantly reduced
- A managed transition over a longer timeline, taking DTT services to the end of 2045, provides space and time for a review of the PSB compact for an all-IP age

A new PSB compact

6.44 The current PSB system depends on the balance of benefits and obligations from the perspective of PSB providers. The benefits have been broadly twofold: access to near-national distribution (via the broadcast TV network) and prominence on EPGs. The obligations include being universally available, making original UK content and delivering a range of undertakings in news, currently affairs and regional programming.

6.45 In the IP era, prominence is already being updated to take into account new behaviours and technologies. If, as the Government and key stakeholders have all indicated, the objectives of PSB continue to be important (universal availability, contribution to impartial news and current affairs to ensure an informed citizenry, promotion of British content production and support for the creative industries including independents), then an updated distribution compact will also be needed.

6.46 This might involve, *inter alia,* further consideration of potential harms in the event that implicit net neutrality status is eroded through the market dominance of IPTV and ISP providers. Stakeholders could also undertake more detailed consideration of the balance between 'must offer' and 'must carry' in an all-IP context.

6.47 Net neutrality rules are currently benign from the perspective of the broadcasters.[97] In its most recent review, Ofcom concludes it would be inappropriate to introduce charging by ISPs for content provision to end-users, suggesting that the current system of mandating broad net neutrality rules (which allows traffic management in the event of congestion and permits differentiated retail propositions, provided these are explicit and easily understood) meets market requirements. Ofcom monitors its net neutrality regime annually.[98]

6.48 However, the ability of ISPs to throttle content in the interests of traffic management and more generally the likelihood that demands from ISPs and other interested parties for increased and widespread content delivery pricing will re-surface are quite rightly a concern of the PSBs.

6.49 As has happened in the US, there is a danger that the balance of power between content providers and networks shifts back in favour of networks at the very time when there are no longer alternatives (satellite, DTT) to counter-balance this.

6.50 The provision of broadcast services (including DTT distribution) has been regulated both under the PSB regime and as a result of competition policy affecting price regulation post Arqiva's merger with NGW. This

[97] Since leaving the European Union, the UK has its own (very similar) net neutrality regime, summarised in the statement published in 2023. https://www.ofcom.org.uk/internet-based-services/network-neutrality/net-neutrality-review.

[98] https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/online-research/other/net-neutrality-/net-neutrality-annual-monitoring-report-2024.pdf?v=390437.

is not the case with the IPTV delivery chain. At the very least, a new compact from 2035 or later might create firmer protections for PSBs (even absent a tightening of competition rules). Such a new compact might include:

- Guarantees that public service content will be delivered on a fair, reasonable and non-discriminatory basis across the whole of the delivery chain, from ingestion to multicast to last mile (alongside enhanced and enforceable rules on prominence);
- Assurances that must-offer/must-carry rules are balanced and fair to both sides of the distribution contract; and
- The introduction of a minimum PSB offering to all households, delivered via cost-effective means (e.g., greater use of multicast[99]), at a regulated, affordable cost to the PSB supplier.

6.51 In summary, a longer lead time to a potential switch-off provides not only better financial outcomes for the PSBs and protects the interests of viewers; it also lowers the potential transition costs for Government even as the bulk of anticipated upside is still realised over time. Critically, there is adequate time to consider how PSB compacts should be reformed and, in particular, how to render them suitable for an all-IP future.

[99] BT is developing it Multicast-assisted Unicast Delivery ('MAUD') technology to create a means of transmitting linear TV over IP cost effectively.