

Channel 4's response to Ofcom consultation on Spectrum Pricing for Terrestrial Broadcasting

1. Executive Summary:

Channel 4 welcomes the opportunity to comment on Ofcom's consultation on the future pricing of spectrum used for terrestrial broadcasting.

Channel 4 welcomes the proposed delay in applying opportunity-cost based AIP to broadcasting spectrum. However, Channel 4 remains of the view that spectrum pricing, whilst a useful tool in other industries, would not deliver Ofcom's objective of more efficient use of electromagnetic spectrum by broadcasters and multiplex operators. It is also likely to have the unintended consequence of reducing investment in PSB content and making the DTT platform less attractive. Channel 4 therefore believes AIP fees should not be applied to broadcasting either now or post 2020. We note that this view is also held by Aetha, an independent consulting firm with a strong spectrum specialism whom Channel 4 and the BBC commissioned to give their view on the applicability of AIP to broadcasting spectrum (Full report attached in Appendix 1).

Ofcom states that the intention of AIP is to expose users to the opportunity cost of using spectrum and to incentivise the efficient use of that spectrum.

*"[AIP] promotes optimal use by ensuring that users face a signal of opportunity cost imposed on society by their [Broadcasters] use and therefore take it into account in their business and investment decisions, just as they do for other resources that they employ, and so have incentives to use it efficiently in the provision of downstream services."*¹

However, Ofcom itself recognises that in the short-term PSBs are unlikely to be able to deliver additional efficiencies even with the introduction of AIP, due to a combination of factors which severely limits PSBs' ability to sell spectrum or to introduce new technologies to increase efficiency. These restrictions are down to several key factors all of which are out of broadcasters' control and we do not believe that these will have significantly changed by 2020.

Broadcasters, particularly those with public service obligations, are extremely limited in the ways in which they can increase efficiency without large scale domestic and international replanning or breaching license conditions through reduced coverage. Public Service Broadcasters are required under the terms of their licenses to reach 98.5% of the population; spectrum is allocated on that basis and no other platform would allow broadcasters to deliver that obligation. PSBs are therefore not free to switch unilaterally to a more spectrally efficient platform.

PSBs are also unable to maximise efficiencies gained through the use of new technologies as they are not in control of the roll out of compatible receiver equipment and must continue to broadcast using old technologies until sufficient roll out has been completed. None of these factors will change post 2020.

Despite these restrictions Broadcasters and Multiplex operators have consistently demonstrated their willingness to maximise the efficient use of their spectrum where possible and they are already incentivised to seek these efficiencies through the existence of a well-functioning spectrum trading market.

In addition to the evidence that the introduction of AIP fees will fail to deliver increased efficiencies, we believe it is likely to have unintended, but detrimental consequences on investment in PSB content and on the overall attractiveness of the DTT platform itself. Alongside their obligations regarding spectrum, Ofcom has a statutory duty to act with a view to maintaining and strengthening the future quality of public service broadcasting - but Channel 4 believes that the introduction of AIP fees could undermine this objective. By increasing distribution costs, the introduction of AIP will result in a direct reduction in the funding available to PSBs for investment in original content. This is especially the case for Channel 4, as a commercially funded not for profit organisation with limited ways of offsetting any additional costs, and with a model where revenues flow primarily back into

¹ SRSP: The revised Framework for Spectrum Pricing
Proposals following a review of our policy and practice of setting spectrum fees, Ofcom, 29 March 2010

content investment. The imposition of AIP would also make the business case for launching channels on the DTT platform far less attractive and could cause smaller channels to leave the platform altogether. This would run counter to Ofcom's own statement that the DTT platform needs to maintain a similar number of channels to remain attractive to viewers.

Channel 4 therefore welcomes Ofcom's commitment to consider carefully any potential effects of AIP on broadcasting output and although Channel 4's strong view is that the introduction of AIP fees are not appropriate for broadcasting at all, if Ofcom remained minded to introduce them, Channel 4 believes that it would be appropriate for those fees to be waived for PSBs, so as not to undermine support for public service broadcasting.

Finally, it is Channel 4's view that, in the case of public service broadcasting, spectrum is not an input in the way Ofcom define it – it is a prerequisite for its ability to deliver its public service obligations. By imposing AIP on terrestrial broadcasters irrespective of these public service obligations, Ofcom would effectively be asking Channel 4 and the other PSBs to bear the cost of a resource that they have little control over. PSBs are given access to the spectrum we use in order to deliver our public service obligations. We are unable to leave the platform, sell off unused spectrum or deliver significant efficiencies without domestic and international coordination.

Furthermore, the historical arrangements whereby PSBs paid for the development of the platform itself should be taken into consideration. Channel 4 is supportive of the principle of efficient spectrum use – indeed it was a requirement that broadcasters pressed the Government to prioritise in the development plans for DTT – but Channel 4 does not think it is reasonable to expect PSBs to pay for this resource when it is gifted to enable PSBs to deliver a series of public service obligations.

In conclusion, Channel 4 believes that applying AIP fees to broadcasting would not achieve its desired impact, whilst also having a negative impact on citizens, consumers and the UK's creative economy by threatening investment in public service content. Channel 4 therefore does not agree with the proposal to introduce AIP fees for broadcasting spectrum post 2020 and believes that should Ofcom decide to go ahead with their plans to introduce these fees, they should be set at a price to reflect the administrative costs Ofcom bear to manage the spectrum or waived altogether.

2. Introduction:

Channel 4 is a publicly-owned, commercially-funded public service broadcaster with a statutory remit to be innovative, experimental and distinctive. Channel 4 delivers this remit through investment in a broad range of content which we distribute through our main channel and across our wider portfolio. Unlike other commercially funded broadcasters, Channel 4 is not shareholder-owned. This not-for-profit status ensures that the maximum amount of revenues are reinvested in the delivery of our public service remit, including high levels of investment in content commissioned from around the UK and across a range of genres. It also means that any additional costs are likely to impact directly on our content budget and our ability to fully deliver on our remit.

Channel 4 forms an essential part of the UK's public service broadcasting ecology, and under the Digital Economy Act 2010, we deliver our statutory remit to be innovative, distinctive, experimental and diverse across our portfolio of channels. Channel 4's sole focus is the delivery of our remit and our commercial and financial strategies are designed to support this end.

In response to changing viewer demand, Channel 4 has broadened its portfolio in recent years to offer a range of digital services. In addition to the main Channel 4 service, the Channel 4 portfolio includes E4, More4, Film4, 4Seven and 4Music², as well as time shift and HD services, including Channel 4 HD. The portfolio also includes a range of related online activities including channel4.com, Channel 4's bespoke video-on-demand service 4oD, and stand-alone digital projects.

As well as a portfolio of nine channels, Channel 4 also owns 50% of the Digital 3/4 multiplex which is used to broadcast four of these channels: namely Channel 4, Channel4+1, E4 and More4. In addition to this, we purchase capacity on the commercial market for five other digital channels: E4+1, Film4, 4Seven, 4HD and 4Music. We believe that all of these channels are important in delivering our remit, whether through the broadcast of programming that fulfils the remit, extending the reach and impact of our content or in supporting Channel 4's model.

Ofcom's proposals relate to Digital Terrestrial television (DTT) and their plans to charge broadcasters a fee to access the spectrum over which the platform operates. The DTT platform is vital for the provision of universal, low cost access to PSB services, and it is currently used in over three quarters of UK homes making it the most popular platform for TV in the UK and Ofcom predict that it will remain the default way for people to access PSB services for the foreseeable future.

"The DTT platform performs very important roles in providing low cost universal access to the public service TV channels and in sustaining viewer choice [...] other TV delivery platforms including satellite, cable and IPTV are unlikely to provide a suitable alternative to DTT when additional low frequency spectrum is needed for mobile broadband."³

To cater for evolving audience demands and achieve digital switchover, Channel 4 and other PSBs have invested heavily in DTT distribution over many years with major investments in the DTT platform, its distribution capacity, and new channels and services. The basic principle of the provision of universally available, free to air broadcasting is wholly reliant on the existence of a sustainable, reliable and wide reaching platform on which these services can be delivered.

² 50% owned with Bauer

³ Securing long term benefits from scarce low frequency spectrum: UHF strategy statement, Ofcom, 16 November 2012

3. Channel 4's response:

Channel 4 has, together with the BBC, commissioned Aetha, an independent consulting firm with a strong spectrum specialism, to give their view on the applicability of AIP to broadcasting spectrum. This independent report (submitted to Ofcom alongside this response) concludes that applying AIP to broadcasting will not increase the overall efficiency of spectrum use, now or post 2020; and furthermore, highlights the risk of regulatory failure as a result of the impact AIP is likely to have on investment in PSB content and the competitiveness of the DTT platform. Aetha state that:

*"We do not agree that AIP should apply after 2020 as the factors that prevent DTT from realising spectrum efficiencies now will very likely still be present then. Furthermore, we believe that applying AIP to DTT spectrum post 2020 will continue to conflict with Ofcom's statutory duties and Government policy objectives for public service broadcasting (PSB) [...]we believe there is also no justification for introducing AIP after 2020, regardless of whether there is a migration of DTT use from the 700MHz band."*⁴

3.1 Broadcasters' limited ability to affect further spectrum efficiencies

AIP is intended to promote the optimal use of spectrum by its users by exposing them to its opportunity cost and thereby incentivising its efficient use. However, broadcasters have very limited control over any efficiency gains due to public service obligations, the need for international and domestic coordination and their inability to upgrade unilaterally to more efficient transmission and broadcast technologies. Despite this Multiplex operators and broadcasters, especially PSBs, have consistently sought to maximise the efficiency with which they use their spectrum. The existence of a well-functioning spectrum trading market incentivises this efficient use. Channel 4 also notes that PSBs effectively already pay for the spectrum they use through the delivery of PSB obligations. Therefore, Channel 4 does not believe that introducing AIP for broadcasting would be appropriate or effective. The reasons for this are explored extensively in the Aetha report and are outlined below.

3.1.1 PSB obligations:

As a public service broadcaster, Channel 4 is subject to an obligation to fulfil our remit (as set out in legislation) and specific regulatory obligations through the terms of our Ofcom licence. These are designed to secure a wide range of television services throughout the whole of the UK to promote, in particular, public service television and they include an obligation to reach 98.5% of the population. We are allocated UHF spectrum for DTT on this basis and no other platform allows us to meet these obligations. This makes it impossible for broadcasters to move unilaterally to a more spectrally efficient platform or to sell off existing spectrum for other uses.

In Ofcom's recent UHF strategy statement it effectively fixed the spectrum requirements for the DTT platform for the next decade. Ofcom stated that it sees DTT as the default platform for providing users with low cost, near-universal access to PSB services, and stresses the importance of maintaining a similar number of free-to-air channels as are available today to ensure the on-going sustainability and attractiveness of the platform to viewers.

*"Our [Ofcom's] consultation identified that the television service characteristic most valued by DTT viewers was access to a sufficiently large number of free-to air TV channels. This suggested that maintaining a similar number of free-to-air channels as are available today is likely to be important in ensuring its ongoing sustainability and attractiveness to viewers and hence its wider roles in providing low cost near-universal access to PSB channels."*⁵

⁴ Should AIP be applied to broadcasting Spectrum? Aetha, May 2013

⁵ SRSP: The revised Framework for Spectrum Pricing

Proposals following a review of our policy and practice of setting spectrum fees, Ofcom, 29 March 2010

3.1.2 The need for domestic and international coordination:

The need for not only domestic but international coordination to release this spectrum in a quantity and format that is of use to others means that broadcasters have no direct control over the release of this spectrum. These conditions will not change post 2020 and therefore the likelihood of the release of spectrum for other uses regardless of the imposition of AIP will continue to be out of the control of broadcasters and wholly dependent on the international replanning of DTT.

3.1.3 Upgrading to more efficient broadcast and transmission technologies:

Having already maximised the efficiencies achievable with current technologies we are open to moving to more efficient broadcast and transmission technologies like DVB-T2 and MPEG4 to optimise our use of spectrum. However it is important to note that we are not in total control of the speed at which we can switch to these new technologies. We are restricted by the extent to which viewers have upgraded their receivers and this is compounded by the lack of first party retail relationship we have with viewers when they buy equipment. This means that PSBs are required to run simultaneous broadcasts in order to ensure viewers with incompatible legacy equipment can continue to view our content and to ensure we meet our licence condition to reach 98.5% of the population. The speed at which we can move to new transmission technologies to enable us to use spectrum more efficiently is therefore directly linked to the speed at which compatible equipment is adopted, a condition over which we have no control. These limitations will remain regardless of whether AIP is introduced or not.

3.2 Broadcasters and Multiplex Operators are already maximising efficiency:

3.2.1 Through technical innovation:

Over the last ten years, broadcasters and multiplex operators have demonstrated their willingness and ability to maximise spectrum efficiency, without the imposition of spectrum charging to reflect opportunity cost. PSBs played an important role in successfully delivering Digital Switch Over (DSO), thereby freeing up the 'digital dividend'; and invested in technology innovation to improve multiplex efficiency. Indeed Channel 4 is currently funding the creation of an additional video stream for its own use on the Digital 3 & 4 Multiplex which should be live in H2 2013. The technical steps necessary to create this stream include:

- removing the current "partition" in the D3&4 mux to merge ITV and Channel 4 capacity. Creating one video pool allows more services to be squeezed into a given capacity. The change requires significant re-engineering because the regional structures of ITV and Channel 4 are not the same, and
- upgrading the existing coding and multiplexing equipment to deliver efficiency improvements.

The Aetha report noted that this was one of many examples⁶ showing that;

*"broadcasters and multiplex operators are indeed examining how they use spectrum and deploying more spectrally efficient technologies."*⁷

3.2.2 Through a DTT multiplex capacity market

Aetha also note that the existence of a "well established market for DTT multiplex capacity already provides sufficient incentives to promote efficiency" and provides numerous examples of capacity trades stretching from 2005 to late 2012 which demonstrate that broadcasters are already exposed to the opportunity cost of the spectrum they use, as outlined in figure 1.

Figure 1: Selected examples of capacity trades in the DTT multiplex capacity market

⁶ Section 3.2.2, Should AIP be applied to broadcasting Spectrum? Aetha, May 2013

⁷ Should AIP be applied to broadcasting Spectrum? Aetha, May 2013



It is clear from this evidence that there is a well-established and effective market for trading broadcasting spectrum and that broadcasters are already incentivised to maximise the efficiency with which they use their spectrum through the existence of that market. Channel 4's creation of an additional video stream for Multiplex 3 & 4 which we have opted to keep for our own use to further enable us to deliver on our public service commitments rather than selling it for alternate use on the open market clearly demonstrates this and the introduction of AIP would do nothing to increase this incentive.

Channel 4 believes that the delivery of our Public Service Obligations effectively acts as a payment for the spectrum we use. Under these obligations we are unable to maximise revenues through a focus on commercially successful/mainstream content as we have a duty to deliver diverse, experimental and often niche content. We also face restrictions in terms of the limits on Advertising Minutage that PSBs are able to air in comparison to non PSBs. Whilst Channel 4 is committed to the delivery of these obligations we feel it is important to note that they amount to a significant monetary cost or foregone revenue which we believe effectively equates to a payment for the Spectrum we use.

When this is considered with the other evidence outlined above, we conclude that the introduction of AIP for broadcasting would not be appropriate.

3.3 Adverse consequences of the imposition of AIP on content investment

Channel 4 also is concerned that the introduction of AIP would have a direct and adverse impact on the delivery of public service content by taking money away from investment in original content.

Channel 4 was established with a primary objective to deliver our remit to be innovative, experimental and distinctive and as a publisher-broadcaster with a purpose to stimulate the independent production sector. Today, the fulfilment of the remit remains Channel 4's core objective, which is achieved primarily through investment in

content across a wide range of genres. We also continue to play a central part in supporting the creative industries in the UK. We remain firmly committed to facilitating the development of creative talent, and working with new companies that might otherwise not be able to break through into the industry.

Channel 4 is an integral part of the creative industries' value chain. As a commercially funded not for profit organisation Channel 4 puts all revenue made back into content where possible. In 2012, Channel 4 invested £608m in high quality content with a record £434m invested in original content across television, film and digital media and delivered significantly to the remit through the wide diversity of programming across its portfolio. This benefited a wide spread of companies, both large and small, throughout the UK (in 2012 Channel 4 worked with 460 independent content suppliers) and helped to create jobs across the UK's creative industries. An independent report compiled by Oxford Economics estimates that Channel 4's commissioning and other activities were responsible for contributing £1.1bn to UK GDP in 2010 and supporting 28,000 jobs across the country. This level of investment in high quality, award winning content demonstrates the huge contribution Channel 4 has made to the creative economy including the delivery of public service broadcasting across a wide range of genres including news, drama, comedy and sport.

Channel 4 is committed to continuing this public service role in future, which we will continue to do by investing the maximum amount possible in content, through revenue that we have generated in the market.

The way in which Channel 4's commercially self-sufficient, not-for-profit model operates means that any additional costs imposed on the business are likely to put pressure on our ability to invest in content. As such, the introduction of AIP, which could cost Channel 4 up to £36m per annum, would severely hamper our ability to deliver the remit through maximum investment in public service content.

In addition to the impact it would have on citizens and consumers' ability to enjoy public service content, the introduction of AIP would also have knock on effects for the independent production industry, a huge success story in the UK, as PSBs account for 90%⁸ of investment in original UK television content. Indeed Aetha found that:

*"every pound spent by the broadcasters added a minimum of GBP1.60 in economic value to the UK economy. This is an underestimate because it does not take into account the effect of spending by the broadcasters' suppliers on the rest of the economy."*⁹

Channel 4 is already maximising its commercial revenues (within the constraints set by its public service remit and competition within advertising and DTT capacity markets), and we are leading industry innovation in ad sales. However, like other commercially funded broadcasters Channel 4 is constricted by the buoyancy of the advertising market and due to our not for profit status it is unable to reduce its profit margin to account for AIP costs.

As a result of the economic crisis and the related downturn in the advertising market Channel 4 has already implemented cost-reduction measures; our headcount fell by almost 200 people between 2007 and 2011 and our administrative expenses represent just 3% of our total spend each year. There is limited room to make additional efficiency savings and this was further demonstrated by Channel 4's inability to protect against cuts to our content budget between 2007 and 2009, during which time net TV advertising revenue fell by c.12%. This was mirrored in a reduction of c.12% in Channel 4's programme budget between 2007 and 2009.

It is therefore likely that, despite our best intentions to preserve high levels of content investment wherever possible, the introduction of AIP would directly impact on Channel 4's content budget. The application of AIP to PSBs would therefore run counter to Government's focus on ensuring growth in the economy, and to both Government and Ofcom's previous statements on their intention to ensure the level of public service broadcasting is maintained in the future. Notably the Secretary of State's recent statement that she was

⁸ Based on a Mediatique July 2012 report which found that in 2010 the PSB channels invested £1.87 billion in original content out of a total of £2.08 billion when the investment of the pay TV channels is included.

⁹ Should AIP be applied to broadcasting Spectrum? Aetha, May 2013

“determined to see these [i.e. the PSB obligations] preserved (if not strengthened) in the next ten years”, she also mentioned “the need to work with the licence holders to maintain, or even increase, the current level of public service requirements, such as the amount of news or original content.”¹⁰

We welcome Ofcom’s commitment to *“consider carefully any potential effects on broadcasting output, and the right options to mitigate those effects[...] particularly in regard to public service broadcasting”* before they look to introduce any charges and their acknowledgement that this could include *“not introducing charges in the form of AIP, or levying it at a reduced rate.”* However it is clear that not only would the application of AIP fail to deliver its intended benefits but it would also do real damage to investment original content, to the independent production sector and the wider economy as a result.

3.4 Adverse consequences of AIP on the DTT platform

We acknowledge Ofcom’s statement that, *“AIP is not designed to achieve any particular change in spectrum use, in either the short or long term. The objective of applying AIP is simply to ensure that the market has the right signals to ensure that decisions taken are in the best interests of UK citizens and consumers”*. However, we are concerned about the uncertainty caused by introducing levels of future potential costs at this stage.

Given that the broadcast industry has limited control around vacation of the 700MHz band, this indicative charge introduces a high level of uncertainty for both public service and commercial channel providers on the platform. The higher charge of £40m per multiplex equates to £4 – 5m per channel, which would almost double the cost of a video stream on our 50% owned multiplex and would represent a significant uplift on the cost of a video stream contracted for on commercial multiplexes.

Clearly, the imposition of AIP, and indeed the suggestion of the potential future costs for operating a channel on the platform, would affect the business case for broadcasters to use the DTT platform at all. As a result smaller channels may leave the platform and new entrants will be discouraged from joining it in the first place. This would weaken the attractiveness of the platform as a whole and conflict with Ofcom’s own findings that the DTT platform needs to retain a similar number of channels to remain sustainable and attractive to viewers.

Additionally, we note that although Ofcom acknowledges the need to consider the potential effects of AIP on broadcast content, in particular PSBs, and the steps available to mitigate such effects, these effects have not been considered at this stage.

In conclusion we believe that it is likely that the introduction of AIP will have a significant and negative impact on content investment and on the DTT platform itself. This is counter to Government’s and Ofcom’s previously stated intention. It is also clear that despite their best efforts broadcasters will not be able to deliver increased efficiencies as a result of AIP and they are already exposed to the opportunity cost of the spectrum they use. Aetha concur with this conclusion stating that:

“Applying AIP to DTT spectrum post 2020 will continue to conflict with Ofcom’s statutory duties and the Government’s policy objectives for public service broadcasting (PSB). The reasons are threefold:

- *AIP is unlikely to have the desired effect of achieving greater spectrum efficiency for DTT after 2020 as broadcasters will still be prevented from releasing spectrum for alternative uses without regulatory intervention.*
- *The existence of a well-functioning market for DTT capacity already provides sufficient incentives to promote efficiency in “own-use”, i.e. within DTT use. There is little evidence that AIP would provide further incentives.*
- *There is a serious risk that AIP would take resources from the delivery of PSB content.”¹¹*

¹⁰ Department for Culture Media and Sport (November 2012), “Culture Secretary renews Channel 3 and 5 broadcast licences”. Available at: http://www.culture.gov.uk/news/media_releases/9534.aspx

¹¹ Should AIP be applied to broadcasting Spectrum? Aetha, May 2013

We therefore urge Ofcom to reconsider the case for the application of AIP to broadcasting spectrum and believe that should it be introduced it should be set to reflect the administrative costs Ofcom bear to manage that spectrum or waived altogether. This is especially the case for PSBs given the arguments set out in this response in relation to the current efficient use of spectrum, the likely impact on content investment and their existing payment for spectrum through the delivery of their public service obligations.

4. Answers to specific questions in Ofcom's consultation.

Question 1: Do you agree that the principle of applying AIP remains relevant to spectrum used for broadcasting?

As outlined above, we remain of the view that applying AIP to broadcasting would not act to increase the efficiency of spectrum use and believe that broadcasters are already exposed to the opportunity cost of using their spectrum through the existence of a well-established market for DTT multiplex capacity. As such, we do not agree that the principle of applying AIP is relevant, justified or appropriate for broadcasting spectrum.

As Ofcom notes in its consultation PSBs are constrained by public service obligations, by the inability to act unilaterally (without domestic and international coordination and replanning) to release spectrum that would be of use to others, and are unable to deliver significant efficiencies through the use of new technologies due to their obligation to continue legacy transmissions because of their lack of control over the roll out of compatible receiver equipment.

It is clear that these constraints will remain after 2020. We therefore believe that the introduction of AIP, at any point, is not appropriate or relevant to spectrum used for broadcasting as the constraints outlined above mean it is not possible for it to have its desired effect of delivering increased efficiencies. Broadcasters are already incentivised to maximise the efficiency with which they use their spectrum through the existence of a well-functioning DTT market and have limited control over the efficiencies they can achieve unilaterally. In addition, PSBs effectively already pay for the spectrum they use through the delivery of public service obligations.

Lastly there is a clear and direct risk to the content budgets of PSBs who have shown that our ability to find savings elsewhere is severely limited. This was demonstrated in previous cost cutting exercises (as a result of falls in the ad market) which showed there were limited savings to be found elsewhere. This clearly runs counter to Ofcom's and Government's desire to maintain and strengthen investment in public service content.

Question 2: Do you agree with our revised proposals to delay the introduction of AIP based on opportunity cost for national DTT multiplex operators until we have materially progressed our proposals for the future use of the UHF spectrum?

Despite our continued difference of opinion as to the applicability of AIP to broadcasting, we welcome Ofcom's recognition of the considerable challenges the multiplex operators face in implementing spectrum efficiencies, and the particular environment of uncertainty we are currently operating in. We therefore welcome Ofcom's decision to delay the introduction of AIP

The 700MHz band currently used for DTT is at risk of being harmonised throughout Europe under a co-primary allocation for use by mobile. 700MHz clearance is in our view, contingent on all multiplex operators and consumers adopting the more efficient DVB-T2 MPEG4 technologies. This will entail a great deal of disruption and significant costs, encompassing infrastructure costs, consumer equipment costs, and large-scale consumer marketing and communications. We maintain that the costs of 700MHz clearance will need to be publicly funded, or paid for by mobile operators moving into the band, based on the 'polluter pays' principle; but note that we do not yet have assurances on this matter.

As such, we agree it would be inappropriate for national DTT multiplex operators to be charged AIP based on opportunity cost during this period until 2020. Indeed, as this response has argued, we maintain that public service broadcasters should not be charged AIP beyond this point.

Question 3: Do you agree with our proposals to apply a fee for spectrum used for national DTT, in the meantime, based on the cost of administration instead?

As stated in our response, while we do not believe AIP fees should be applied to broadcasting at all, if they are to be set we agree with the principle that DTT multiplex operators should be charged a cost-based fee based on the regulatory cost of spectrum management. This is on the basis that this will be a low fee in line with the fee proposed for the interim award of 600MHz spectrum. We note that Ofcom will consult on the level of the cost-

based spectrum management charge later during 2013 and look forward to engaging with Ofcom on the scale of the cost-based charge at that point

Question 4: Do you agree that charges based on the costs of managing the spectrum should be applied to DAB radio and to local TV broadcasting?

N/A

Question 5: Do you agree that when full AIP is applied for spectrum used for national DTT broadcasting (once we have materially progressed our proposals for future use of the UHF spectrum) it should be applied gradually, rising over five years.

As stated in our response to Q1, Channel 4 does not believe that AIP should be applied for spectrum used for national DTT broadcasting, particularly for PSBs. As such, we have not further comment on the implementation of such a charge.