



BT's response to the Commission's questionnaire for the public consultation on costing methodologies for key wholesale access prices in electronic communications

Introduction

This important consultation takes place against the backdrop of the Digital Agenda targets for high-speed broadband and the European Commission's desire to accelerate fibre deployment, and the consultation questions raise two sets of very different issues.

The first part of the consultation assesses objective criteria for the cost treatment of access products, consistent with the established principles of cost-orientation in the EU Framework. We believe there is a case to be made for a more level and consistent framework across the EU.

The second part suggests a completely different approach – basing copper access prices not on costs but on policy objectives aimed at incentivising migration from copper to fibre. We disagree strongly with this suggested policy approach and challenge a number of the assumptions made:

- Denying companies the appropriate recovery of costs relating to copper access, including on sunk and fixed assets, will deter investment in fibre assets because the regulator will have a track record of not allowing a fair return on such assets.
- The concept of conditional pricing of different products – reducing copper prices as a remedy to promote fibre investment – is contrary to the established practice of the European framework and the principle that cost orientation requires the recovery of all efficiently incurred costs.
- The economic case for fibre depends on a fair return on investment, and our deployment in the UK demonstrates how investment and open competition can go hand in hand without the need for additional regulatory intervention.
- Lastly we also challenge the assumptions around effecting a transition from copper to fibre. Technology changes mean FTTC is increasingly able to meet the Digital Agenda targets and copper will have a permanent role in the network.

General Comments

We address the specific questions raised later in this document but firstly set out below some more general comments to give context to our answers.

It is our strong view that the best way to incentivise incumbents to invest in fibre (or any other new technology) is to give certainty that companies/shareholders will receive a fair return on their investment including full recovery of reasonably incurred costs and an adequate reward for risk. We support the high-level principles of cost orientation that the Commission and NRAs have developed over the years, and encourage the Commission to ensure that NRAs apply them with rigour. We would strongly disagree with any suggestion that there should be any departure from these established high-level cost orientation principles in order to achieve certain industrial policy outcomes in relation to fibre deployment.

We therefore believe that the concept of conditional pricing of different products – reducing copper prices as a remedy to promote fibre investment – is contrary to the established practice of the European framework. The framework requires that NRAs define markets and identify remedies within each market, with cost-orientated price controls relating to the costs relevant to the products in question. We support this well-established approach. The key to success is allowing investors to work out how to price fibre access to achieve a return on a highly uncertain investment and to promote wholesale access, which is beneficial to the business case. Hence, there is no justification for pricing copper access below cost in an attempt to incentivise a move to fibre. Nor is there any justifiable economic rationale for ‘picking and mixing’ costing approaches according to relatively subjective assessments of replicability and competitive conditions.

It is also worth noting at the outset that the questionnaire makes no distinction between a cost orientation remedy and a price control remedy. In fact, there seems to be the suggestion that there is no distinction between the two. We recognise that in certain specific instances this may be the case where the cost orientation remedy has been made operational by means of, for example, Bottom Up LRIC charges, which have the practical effect of imposing a price cap on the level of charges¹. However, in the UK, Ofcom has distinguished between the two remedies and used them to address the specific circumstances of individual markets. In that regard, BT believes that the **specific price control remedy** should only be used where entrenched and/or enduring SMP is found in established markets (and this is expected to endure for the foreseeable future), whereas the **cost orientation remedy** should be applied where SMP is found in nascent markets with cost and demand uncertainty, in markets where competition is likely to emerge in the foreseeable future, or in markets nearing the end of their economic lifecycle.

We believe there is much still to do to achieve a level framework across all member states. In the context of setting price controls for regulated wholesale remedies, we generally support the consistent use of FAC CCA as the appropriate costing methodology for assessing forward-looking RPI-X charge controls for broadly-defined baskets of established products where there is sufficiently entrenched market power. As a key harmonising measure, the Commission should require all NRAs to ensure that incumbents develop and maintain robust FAC CCA costing systems and that there is transparent, auditable regulatory accounting information available. Through proportionate publication of regulatory accounting information, supporting documentation and information made available during specific consultations, new entrants should be able to gain an understanding of the basis of incumbents’ access prices and challenge these as necessary. It may also be appropriate that these costing systems are capable of deriving Top Down LRIC information to better understand the ways in which common costs could be recovered. In the UK, for instance, what are called Distributed Long Run Incremental Costs (DLRICs) and Distributed Stand Alone Costs (DSACs) are produced and used as a first order indicator of whether individual charges are cost oriented. Ofcom is about to consult on how best to approach this issue moving forward.²

We do recognise that different countries are at different stages of development as regards costing methodologies and models. However, we believe that it is important that NRAs prioritise the improvement of regulatory costing information; as indicated above, in the UK, Ofcom has just commenced a major review of regulatory financial reporting, linked to a revision of cost orientation guidelines. Where countries are operating with less formal costing systems (including, for example, the creation of bottom-up costing analyses to support specific price control outcomes), there is a particular need to ensure transparency.

¹ see BEREC (2011), Regulatory Accounting in practice, October.

² See Ofcom: Review of cost orientation and regulatory financial reporting in telecoms: call for inputs, 8 November 2011.

In general, we believe that ensuring a fully competitive market is the best way of ensuring that fibre is rolled-out by both incumbents and entrants. Our own experience shows that it is possible for an incumbent to invest in the rapid scale deployment of fibre networks without the need for new regulatory interventions or incentives. BT is currently deploying at a rate of a million premises a quarter and we have just announced that we are bringing forward our fibre roll-out plans by a year, passing two-thirds of the homes in the UK by 2014. On this basis, we are well on the way to meeting the Commission's Digital Agenda targets in the UK.

We are deploying fibre at pace whilst supporting a highly competitive market. Openreach, BT's wholesale access division, provides access to all communications providers, including downstream BT, on equivalent, non-discriminatory terms. This helps bring more customers to the network, driving the volumes that are critical to the fibre business case. In this respect, we welcome the Commission's separate consultation on non-discrimination as this is an area where more attention should be focussed.

Finally, the questionnaire considers issues relating to the transition from copper to fibre network. Our view is that copper has a permanent role in our network. Our business case assumes that the majority of customers will continue to take copper broadband, where we are still investing heavily, and of those taking fibre, most will take fibre to the cabinet (FTTC) which relies on copper for the last 500m of the connection. We believe this is a long term prospect as FTTC will deliver over 100Mb for most customers, which is more than they need for the foreseeable future. It is therefore important to avoid theoretically-based analyses that simplistically assume that a complete cut-over from copper to fibre is possible or indeed desirable.

Answers to specific questions

Question 1: Problem definition

Question 1: Would you agree with the proposed problem definition?

As indicated above, we believe this questionnaire raises two related but separate issues: firstly, regarding the appropriate costing treatment for key access products; and, secondly, regarding what incentives, if any, are required to encourage fibre deployment.

We agree on the importance of ensuring regulatory consistency in costing methodologies, to ensure that both investment and wholesale competition is supported. We also agree that it is important to understand the way that wholesale access prices for the legacy copper network impact on incentives for efficient investment in new and enhanced infrastructures. However, as indicated above and in our answers to the specific questions below, it is important that the correct policy conclusions are drawn. There is a suggestion, which we would refute on the basis of the UK experience, that the problem largely lies with incumbents who are unwilling to invest in fibre deployment given high copper access prices and margins.

As noted above, the questionnaire makes no distinction between a cost orientation remedy and a price control remedy. For the avoidance of doubt, BT's response to this questionnaire focuses on costing methodologies in the context of applying the price control remedy, and should therefore not be interpreted as BT's view on the appropriate approach to adopt with regards to the cost orientation remedy.

Question 2: Key access products

Question 2: Would the above proposed list of access products to be covered by the Recommendation be appropriate? Should WLR and/or other(s) access product(s) also be part of this list? If yes please specify them and briefly explain why.

We believe that it is important that a consistent approach to costing methodologies is taken across the full range of copper access products in order to ensure the correct economic signals are sent, given the scope for substitution. This is particularly important where these products share the same fixed and common costs; otherwise there is a risk of over or under recovery of costs. This range of applicable products includes the access services in markets 4, 5 and 6 as set out, but we also believe that wholesale line rental (WLR) services should be included. We believe that copper networks will endure, including with FTTC provided on an overlay basis with VDSL over fibre combined with baseband voice over copper. Voice over Broadband is unlikely to substitute at scale for WLR in the foreseeable future.

Questions 3-7: Possible costing methodologies

As noted by the EC in the explanatory text preceding these questions, there are a variety of possible costing methodologies that could be employed to calculate prices for the regulated products in markets 4, 5 and 6 depending on choices made regarding:

- The *cost allocation approach*: fully distributed or allocated costs (FDC/FAC) or long-run incremental costs (LRIC), where the latter typically includes a mark-up for common costs (LRIC+)
- The *modelling approach*: top down or bottom-up, or hybrid approaches reconciling both
- The *asset valuation methods*: historic cost accounting (HCA) or current cost accounting (CCA)

In practice, not all of these options can be combined into a single costing methodology. For example, FAC models are by definition, top down approaches because they rely on the costs actually incurred by the incumbent and recorded in their accounts. Similarly, LRIC models must value assets at CCA in order to capture appropriate forward-looking measures of cost.

Therefore, BT considers that in practice there are four possible costing methodologies that could be employed:³

1. **Top Down FAC HCA**: costs taken from incumbent's accounts (Top Down); allocation based on fully distributed accounting principles (FAC); assets valued at historic costs (HCA)
2. **Top Down FAC CCA**: costs taken from incumbent's accounts (Top Down); allocation based on fully distributed accounting principles (FAC); assets valued at current costs (CCA)
3. **Top Down LRIC CCA**: costs taken from incumbent's accounts (Top Down); allocation based on fully incremental cost principles, which requires construction of cost-volume relationships – CVRs – in order to allocate costs to service increments, plus a mark-up for the recovery of common costs (LRIC+); assets valued at current costs (CCA)
4. **Bottom Up LRIC CCA**: costs derived from a hypothetically efficient network configuration (Bottom Up); includes network elements and costs needed to provide relevant service increments, plus a mark-up for the recovery of common costs (LRIC+); assets valued at current costs (CCA)

To determine which of these cost methodologies is the *most adequate* to set regulated prices in the markets under consideration it is necessary to assess their advantages and disadvantages against a

³ This excludes, at this stage, the Discounted Cash Flow (DCF) approach discussed later in the questionnaire.

set of criteria. BT considers there are two key criteria to assess the strengths of these costing methodologies:

- a. **Cost recovery:** does the costing methodology ensure that investors are not over or under compensated over the lifetime of the assets and that they therefore obtain a fair return on their investments?
- b. **Price signalling:** does the costing methodology ensure that prices follow the profile that would be expected in a competitive market, thereby sending the right 'build-or-buy' signals to potential entrants, as well as achieving allocative, productive and dynamic efficiency?

BT's assessment of the different costing methodologies against these criteria is set out in the table below.

Table 1 Assessment of costing methodologies

★ Poor ★★ Average ★★★ Good

Costing methodology	Cost recovery	Price signalling
FAC HCA	★★★ Full cost recovery guaranteed, no over- or under compensation	★ No efficiency properties as pricing profile ignores current asset values
FAC CCA	★★★ Full cost recovery guaranteed if there is a consistent treatment of holding gains/losses between charge control model and incumbent's accounts	★★ Pricing profile will reflect asset price changes, but will also capture incumbent's cost structure and asset mix, and could result in price volatility due to treatment of holding gains/losses
TD LRIC CCA	★★★ Full cost recovery guaranteed if there is a consistent treatment of holding gains/losses between charge control model and incumbent's accounts	★★ Similar to FAC CCA, but price volatility can be more easily smoothed out by use of indices to capture future replacement cost values
BU LRIC CCA	★ No guarantee of cost recovery because of the use of a hypothetical entrant's cost structure and inclusion of fully depreciated assets	★★★ Fully reflects current asset values and cost structure of a new efficient entrant. Could be appropriate for new products

As can be seen in the table above, no costing methodology can simultaneously achieve both objectives. There is therefore a degree of regulatory judgement to be exercised in choosing a particular approach. In this regard, we strongly support the Top Down FAC CCA approach used by

Ofcom in the UK to set the prices of copper access services⁴. This strikes the right balance by ensuring there is a reasonable prospect of full cost recovery, as well as sending appropriate price signals to the market through a pricing profile that reflects the current replacement cost of building the network today. Arguably, Top Down LRIC CCA approaches could also achieve such a balance but the Top Down FAC CCA approach offers significantly greater transparency.

It is important to note that the CCA approach to asset valuation in the UK case will not lead to overcompensation for BT even where the price of copper is increasing relative to when the network was first rolled out. This is because under an FAC CCA approach based on financial capital maintenance (FCM), as is the case in the UK, increases in asset values are reflected as holding gains in the charge control model, which has the effect of reducing allowed revenues in the charge control period in which the holding gain is recognised. Over the lifetime of the asset, holding gains recognised in this way will net out the effect of higher depreciation and returns on capital allowances derived from the higher asset base.

In the case of Bottom Up LRIC models, overcompensation may indeed arise by the use of CCA valuation methods, as well as by the fact that fully depreciated assets are included in the model. However, it is very important to understand that whether overcompensation has in fact occurred (or has the potential to occur) can only be analysed over the lifetime of the asset and the answer will differ on a country-by-country basis depending on how the stock of investments took place over time, as well as country-specific factors that impact on CCA values (e.g., labour and construction costs, inflation, etc.). This is particularly true if one considers that there have been periods earlier in the lifetime of copper networks where CCA asset values would have in fact been declining due to technological improvements. We would therefore caution against taking a definitive stance on this matter without further country-specific analysis.⁵

Question 3: Which is the most adequate cost model (LRIC, FDC, other) to calculate prices for regulated assets in markets 4, 5, and 6?

Question 4: Which is the most adequate modelling approach (top-down, bottom up) and asset valuation method for regulated assets in the above markets?

As explained above, determining which is the most adequate costing methodology requires a regulatory judgement that implicitly weights the potentially conflicting objectives of cost recovery and price signalling.

As noted earlier, we believe that in the context of setting price controls, the approach adopted in the UK (FAC CCA) strikes the right balance by providing reasonable prospects for cost recovery (which ensures incumbent's investment incentives are preserved, thereby promoting dynamic efficiency), as well as sending appropriate price signals to prospective market entrants (thereby fostering allocative, productive and dynamic efficiency).

⁴ This is notwithstanding any decisions BT may take or has taken to appeal against Ofcom's decisions on specific issues: such as the exclusion of pension costs; the calculation of the WACC (the basis of our appeal against the current WBA charge control); or Ofcom's proposed continuation of an adjustment to BT's duct asset values, which we believe is inconsistent with the general use of CCA in setting access charge controls. Such issues do not detract from our overall support for the Top Down FAC CCA approach used by Ofcom in the UK.

⁵ In practice, BT's experience has been that bottom up models invariably omit some costs, therefore providing a cost estimate that is biased downwards (as was the case with additional PPC Point of Handover costs; Ofcom established a new method of cost recovery for Points of Handover following a court appeal by C&W last year). This is because such models tend to be theoretical constructs and rest on the premise that there is an absolute level of costs attributable to a product. But there is no absolute level of costs. In any business, costs vary and move around from year to year.

Arguably, Top Down LRIC CCA approaches could also achieve such a balance. In practice, however, because Top Down LRIC models still require the addition of a mark-up to recover common costs (LRIC+), they ultimately produce very similar results to Top Down FAC CCA models. Indeed, LRIC plus a mark-up on an equi-proportional basis (LRIC+EPMU) used to be the basis on which Ofcom set the prices for a number of BT price-regulated products. However, more recently Ofcom adopted FAC CCA due to the significantly superior transparency benefits of this methodology, as it can be more easily reconciled with BT's audited and publicly available regulatory financial statements and accounts.⁶

Question 5: Would the use of BU-LRIC based on CCA lead to an increase in copper access prices due to the reduction in subscriber numbers and the valuation at current cost of (nearly) fully depreciated assets?

In the UK case, the FAC costing methodology adopted means that a reduction in subscriber numbers on copper should be accompanied by a reduction in the fixed and common costs apportioned to copper. There is no reason why there should therefore be a material increase in copper access prices as volumes decline even if there may be a small loss of scale economies.

BT believes a similar effect would probably be seen in Bottom Up LRIC models. Not only would a smaller mark-up for common costs be required, but the reduction in subscriber numbers would impact on the optimal network dimensioning assumed to construct the model in the first place, thereby resulting in a lower absolute LRIC that mitigates the impact of lower volumes on unit costs.

With regards to whether valuation at current costs of (nearly) fully depreciated assets might lead to an increase in copper access prices, it is again important to distinguish Top Down FAC CCA, as adopted in the UK, from Bottom Up LRIC CCA methodologies.

In the UK approach, fully depreciated assets are not included in the estimation of copper access prices. Once an asset reaches the end of its economic life and has no book value, it will not be captured in Ofcom's charge control model. For assets that are nearly fully depreciated, increases in CCA values would get reflected as holding gains, leading to a short term reduction (rather than an increase) in prices if fully recognised in the charge control period in which they took place. There are very few exceptions to this general rule. One exception is in Ofcom's approach to setting regulated prices for the ISDN30 product, where an adjustment was made to the asset base to capture a 'steady state' level of costs in order to reflect the fact that this product is reaching the end of its economic life and is being superseded by new, more efficient products.

In the case of Bottom Up LRIC models, an increase in CCA valuations may indeed result in increased upward pressure on copper access prices. Whether copper access prices ultimately increase in absolute terms would need to be assessed in the round, taking account of other factors and assumptions in the model.

Question 6: What is your view on the argument that the use of a CCA BU-LRIC model for the copper network could unduly compensate the incumbent for legacy assets?

As noted above, Ofcom's approach in the UK does not over compensate BT for legacy assets because any increase in CCA values is compensated for by holding gains and the fact that fully depreciated assets do not contribute to the calculation of allowed revenues.

⁶ See, for example, paragraphs 3.9 and 3.10 here: http://stakeholders.ofcom.org.uk/binaries/consultations/llu/statement/llu_statement.pdf; paragraphs 6.6-6.12 here: <http://stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/summary/off.pdf>; and paragraph 3.16 here: <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/summary/wlr-cc-2011.pdf>.

On the other hand, BT considers that to assess whether a Bottom Up LRIC CCA model can overcompensate incumbents is an empirical question that requires a detailed country-specific analysis over time. As highlighted in table 1 above, we do note that Bottom Up LRIC CCA models are not designed to ensure full cost recovery, so there is indeed the prospect prices based on this methodology can lead to under or over compensation.

In this regard, we would agree that if it was the case that assets had previously been subject to regulation on an HCA basis, and subsequently switched to regulation on a Bottom Up LRIC CCA basis, then over-compensation over the lifetime of the asset is possible, especially when CCA values are increasing.⁷

However, in considering such possible over or under-compensation, it is also necessary to consider the price at which the assets were initially acquired by shareholders. This applies particularly to duct assets, much of which was in place when ownership was sold by the government to private shareholders.

Question 7: Would you expect fibre networks to be built in a cost-efficient manner? In this regard, would you consider the use of a CCA BU-LRIC model for fibre as appropriate?

BT would expect fibre networks to be built in a cost-efficient manner. Whilst it is not used in the UK, a Bottom Up LRIC CCA model for fibre might be considered appropriate to evaluate this but due consideration would need to be given as to the treatment of set-up costs during the start-up period, and migration costs which may result in high unit costs initially. This could be addressed by a Discounted Cash Flow (DCF) analysis (as used in a standard investment business case) or by the use of economic depreciation to spread costs in line with service provision.

In the UK, active fibre-based services are not subject to a price control although non-discrimination obligations, creating full equivalence, do apply. Prices have been set on a commercial basis with the objective of achieving forecast take-up levels and earning a commercial return commensurate with the risks incurred in the investment programme. For the reasons explained later in our response to this questionnaire (see Q18), BT believes this approach strikes the right balance between consumer protection through the promotion of competition and encouraging investment in NGA networks.

Questions 8-14: Asset valuation and replicability considerations

The Commission suggests that there are two types of assets currently subject to price regulation: (i) replicable and (ii) non-replicable assets, and implies that replicable assets should be valued at CCA (because of its price signalling properties), whereas non-replicable assets should be valued at HCA (because price signals for entry are not relevant). BT does not believe that there are truly non-replicable assets in the telecoms industry (where replicability is understood in a technology-neutral way) and we would regard this suggestion as fundamentally flawed.

First, regarding the price signalling function of asset valuation, it must be recognised that all infrastructure assets are providing services for which there is competition at the retail level. For example, BT's duct supports services which are in competition with extensive cable networks offering voice, broadband and pay TV; and mobile networks offering voice, broadband and content. (Ofcom has estimated that 14% of UK households use mobile networks as the sole supplier of voice and/or data services and has suggested that the percentage is likely to continue to increase as the service to end-users improves.) Thus, there is a potential for a distortion of competition if certain

⁷ Though see footnote 3 above. Bottom up methods can lack transparency where the audited financial statements are based on CCA FAC as the results of bottom up modelling cannot easily be mapped back to the regulatory statements.

assets (e.g. copper access networks) are deemed to be 'non replicable' in a technology-specific way. Put differently, it is simply not the case that there is no end-to-end infrastructure-based competition such that the price signalling properties of CCA asset valuation can be ignored; this can have a distorting impact on end-to-end infrastructure-based competition.

Second, regarding cost recovery, it is suggested (page 6) that, "Normally NRAs would be expected to use either HCA or CCA and not mix the two approaches. In practice, some NRAs recognize that those assets which cannot be economically replaced (such as for example ducts) must not necessarily be valued at their full replacement costs." But for recovery of efficiently-incurred costs the important point is not to mix the two approaches across time so that an asset is not valued at HCA for some periods and then at CCA at other times. This can lead to an over-recovery or under recovery of costs over the lifetime of the asset, depending on the circumstances. Cost recovery should be allowed for all assets, including those deemed to be non-replicable, if shareholders are not to be denied a fair return on their investment in network operators in the EC.

The essential issue is that some older assets may have been fully paid for by customers in the past and thus no further contributions towards incurred costs are needed for there to be cost recovery. This can only be assessed at a national level on a case by case basis. If there is to be over-recovery for this reason, there would then need to be consideration as to whether imposing a valuation below current cost would have an adverse impact on end-to-end infrastructure-based operators competing against the asset(s) in question. Again, this can only be assessed against the specifics of the national market in question, as is recognised on page 7 of the questionnaire:

"The degree to which each asset would be replicated could, nonetheless, vary among and within different Member States, depending on the presence of alternative competing infrastructures (cable and other local area networks), the level of unbundling and the presence (and physical qualities) of civil engineering assets such as ducts, poles and manholes."

Question 8: Would it be, in your view, appropriate to value assets differently depending on their replicability? Would the application of different valuation methods, depending on the replicability of the assets, be appropriate irrespective of the cost model used (e.g. LRIC or FDC)?

For the reasons explained above, BT does not believe that there are truly non-replicable assets in the telecoms industry (where replicability is understood in a technology-neutral way).

It is possible that certain assets, such as the copper local loop, are non-replicable in a technology-specific way (in the sense that it would make little economic sense for an entrant to invest in a parallel copper network). However, this does not mean that current cost valuation is no longer necessary. As noted above, the telecoms industry is characterised by significant infrastructure - based competition between different technologies, and it is important that prices reflect current economic costs in order that consumers and operators may make efficient purchasing and investment decisions⁸.

Another important consideration in deciding on the appropriate asset valuation approach is that there is still a need to ensure investors have a reasonable prospect of cost recovery over the lifetime of the asset, including a return on the investment.

The discussion above suggests that any move to ignore economic considerations, and not to use current replacement costs, should only be applied on an *exceptional* basis where: (i) an NRA can

⁸ As indicated above, we believe Ofcom's proposed continuation of an adjustment to BT's duct asset values is inconsistent with the general use of CCA in setting access charge controls.

demonstrate that costs (including an appropriate return) will still be recovered over the lifetime of the asset; and (ii) an explicit decision is taken to abandon the goal of encouraging efficient infrastructure-based competition to the services provided over the assets in question.

Question 9: What could be an appropriate time horizon when considering the replicability of different assets?

In the context of the questionnaire, this question effectively means, ‘what is the time horizon over which we should consider that competition can become effective?’ The greater the emphasis on the short term, then the more assets will be deemed ‘non replicable’. In effect, this question is therefore asking whether the Commission should have an objective of encouraging competition in the longer term or the shorter term.

BT considers the Commission should have the objective of establishing sustainable competition wherever possible. This points to a longer time horizon and hence there being a very small (possibly non-existent) set of ‘non replicable’ assets.

Question 10: What would be, in your view, the appropriate method to value non replicable legacy assets: (i) HCA (either LRIC or FDC), (ii) infrastructure renewal accounting (IRA) or (iii) other methods (please explain these methods and their suitability)?

See our answer to questions 8 and 9. For the reasons provided above, BT believes there will be very few (if any) instances where truly ‘non-replicable assets will be found. For this reason, BT considers that all assets ought to be valued on current cost accounting (CCA) basis.

If economic considerations are to be ignored, then the major issue is one of equity, i.e. the distributional effects of the intervention on the owners of the assets (shareholders) and users of the assets (customers). This is not a question which can be answered by reference to accounting methodologies.

Question 11: What could be the appropriate method for those assets which can be replicated with a view to ensuring that competition on those assets is not distorted? Would CCA be suitable for that purpose?

We believe CCA should provide the best price signals for replicable assets if these are to be regulated. Indeed, in the case of such assets there is a very large risk that not using replacement costs will have a distortionary impact on competition.

Question 12: Could copper be considered a replicable asset? If so, under which circumstances?

Copper provides services which customers can choose to take from alternative infrastructure providers (cable covers more than 50% of UK households; other access providers exist in business centres, and customers increasingly choose to use mobile-based services rather than fixed services). In an economics sense, it is therefore replicable in the UK, although the degree of replicability will vary by geography.

The circumstances under which copper can be considered replicable are where alternatives exist for customers to use other platforms for voice and data services. This therefore involves a competition assessment, a key element of which will be the choice of the relevant time horizon.

The advantage of using CCA to value assets is that competition will not be impeded by regulation. For example, even if competitive entry is assessed as being unlikely, such entry will still not be impeded by CCA-based regulation if that assessment is subsequently found to be incorrect i.e. if the

introduction of new technology make entry easier than was expected at the time of the competition assessment.

Question 13: Could LRIC/CCA be appropriate to calculate the cost of fibre-based access products or is another cost model such as DCF better suited for this purpose?

We would agree that LRIC CCA can be appropriate to calculate the cost of fibre-based access products. If this is for the purpose of price-setting, a DCF model could be used to stabilise access prices over time. However, in BT's view it is premature to consider setting the wholesale price of fibre-based access products given (i) the investment risks inherent in providing these services and (ii) the constraining influence on fibre prices that is provided by price regulation on copper wholesale access services and substitutability at the retail level.

Question 14: In which manner would replicability considerations enter into the modelling of fibre access prices? Should civil engineering infrastructure be subject to different valuation methods depending on whether such infrastructure is de facto used for fibre deployment? Which circumstances could hinder the use of existing civil engineering infrastructure to deploy fibre networks?

BT does not consider that the same civil engineering infrastructure should be subject to different valuation methods depending on whether such infrastructure is *de facto* used for fibre deployment as opposed to copper.

Discrimination of input costs in this way is likely to distort competition between copper and fibre access services, leading to the possible deployment of fibre when its marginal value is less than its marginal cost.

Question 15: Modern equivalent asset (MEA) approach

Question 15: Could fibre be considered as the MEA for copper? In this respect, could the fibre access network be considered as the most cost efficient method, using modern technology, of providing the same services, to the same level of quality and to the same customer base as is provided by the existing copper access network?

There are a number of reasons why fibre cannot be considered the MEA for copper, which we set out below. It is important to stress that we do not consider it appropriate to use the CCA valuation process as a policy tool to try to incentivise fibre deployment.

First, much of the fibre being deployed in the UK in BT's access network is for FTTC, where the fibre is not a replacement for the copper network, but is only an overlay. For this technology, it is clear that fibre does not replace copper.

Second, to use fibre as the MEA for copper, it needs to be demonstrated that it is a cheaper option for the same functionality and, despite the expectation that ongoing costs for fibre will be lower, this is not yet clear. This can be illustrated by the estimates made by the Broadband Stakeholders Group (BSG) for rolling out fibre networks: "*the costs of deploying FTTH/GPON (GBP24.5 billion), [compared] with FTTH/PTP costing around GBP28.8 billion (18% more than FTTH/GPON)*"⁹. It can be seen that this is significantly more than BT's capital spend on its copper network over the last 18 years, representing the expected life of such assets, £6.1Bn.¹⁰

⁹ Source: the costs of deploying fibre-based next generation broadband infrastructure, 8 Sep 2008, p8, prepared by Analysys Mason.

¹⁰ from 1992/93 to 2009/10, source: RAV model published by Ofcom

Third, there are enormous practical difficulties in assessing the value of a fibre network which is equivalent to the existing copper network. These have been highlighted by WIK:

“The modern equivalent asset (MEA) approach would imply that one determine the cost of that part of an equivalent technology that equivalently replaces copper. This approach is conceptually feasible but very hard to make operational, because it would require translating differences in QoS and capacity into cost equivalents. The difficulties would already start in identifying an appropriate bandwidth for a copper line. Do we start at the MDF location and allocate an ADSL 2+ bandwidth equivalent? It is unclear how large this would be, since the bandwidth transferable depends on the copper line length. The bandwidth equivalent of the sub-loop from the street cabinet to the customer premise may be determined by VDSL2, but which concrete standard shall be taken? VDSL bandwidth also depends on the copper line length. Is a mixture of ADSL2+ and VDSL2 the proper MEA concept in this case?”

“Even if such information is available and the FL-LRIC for fibre is properly determined, there remains the question of consumer valuation of any equivalent capacity if it is provided over copper compared with the case where it would be provided over fibre. In sum, the MEA value of the copper network is relatively low given the potential capacity differences between copper and fibre. A calculation approach in detail, however, can only be materialized with arbitrary assumptions.”¹¹

Fourth, there is the ongoing concern that a fibre network requires power to be available at the customer’s premises in order to operate. For the copper network, service, including emergency service can continue to be provided using power at the local exchange building which has standby power.

Question 16: Consistency in the costing methodology along the same value chain

Question 16: Would it be, in your view, appropriate to calculate the access prices for products along the same value chain according to the same cost models? Would this approach ensure consistency in the costing methodology?

BT considers that it is far from obvious that it would be necessary to regulate all products in the same value chain with strict price controls. However, should this be the case, then BT agrees that it would probably be appropriate to use the same cost models. One of the key benefits of this approach would be to facilitate the NRA’s task of monitoring the ‘economic space’ between potentially substitute products from the perspective of an entrant.

However, it is important to be mindful of the fact that, recent technological developments as well as more granular regulatory obligations imposed by NRAs on incumbents, has led to a significant increase in the number of access products—for example, whereas in the broadband value chain there would have been until very recently just two relevant wholesale products (LLU – full and/or partial – and WBA based on ‘traditional’ ADSL technology), there are now at least five more products that have emerged as relevant alternatives: sub-loop unbundling (SLU), duct access (PIA), WBA based on ADSL2+, fibre-based unbundling in FTTC areas, and fibre-based access in FTTH areas.

Similarly, all these products are currently at different stages in their lifecycle—for example, copper access LLU is a very mature product, whereas PIA, SLU and fibre access are at very early stages of development.

These two factors imply that using the same cost models to set regulated prices could result in distorted price signals that could limit the take-up of new products and/or expose the incumbent to inefficient cream-skimming that would limit its ability to fully recover fixed and common costs. For

¹¹ Source: *Wholesale pricing, NGA take up and competition*, prepared for ECTA, 7 April 2011.

example, if FAC CCA prices were set for fibre access products in the UK as they are for copper access,¹² this could result in very high prices for fibre due to small volumes, which would discourage take-up.

Similarly, setting SLU or PIA prices on a strict FAC basis by, for example, taking account of internal volume consumption that boost volumes and result in low unit costs, could result in a low price that significantly encourages take-up from entrants, exposing the incumbent to the risk of asset stranding and/or the inability to fully recover fixed and common costs overall.

Because of this, BT believes it would be more appropriate to retain flexibility in price setting until the market reaches a steady-state. In the case of fibre, such flexibility could be provided by allowing full commercial freedom for the incumbent to set prices on a non-discriminatory basis – as is currently the case in the UK; whereas in the case of SLU and/or PIA, alternatives such as more flexible cost orientation/basis of charges or retail-minus approaches could be envisaged.

Questions 17-21: Copper access prices and the incentives to invest in NGA networks

Question 17: Is, in your view, the migration from copper to fibre a pre-condition for achieving the DAE broadband targets? In particular, could future technological developments allow the traditional copper network to support bandwidths similar to those of NGA networks (i.e. 100 Mbps) and, if so, under what circumstances?

We believe that the migration from copper to fibre (assuming this implies a full cut-over to fibre-only networks) is not a pre-condition for achieving the DAE broadband targets. It is possible for FTTC which relies on copper for the last 500m of the connection, to support speeds of 100Mb for most users, taking advantage of changes to network frequency plans and vectoring developments. Even where FTTP is provided, this may, given the comments we make below in answer to questions 22 to 28 on the practicalities of fibre cut-over, still be as an overlay with the copper network remaining in place.

Question 18: How do you consider that the incorporation of a risk premium in the WACC should be calculated to adequately and effectively reward the investment risk and provide the necessary incentives for investment in NGA infrastructures?

Investments in NGA networks, whether for FTTC or FTTH, carry significant risk. The EC Recommendation on regulated access to NGA networks has explicitly recognised this, noting that NRAs should take account of uncertainty relating to demand, costs, technological progress, market dynamics, competition and the macro-economy.¹³ The question arises as to how to reflect this risk in setting regulated access prices for these networks.

One approach is to avoid direct price regulation on these networks altogether, and let the incumbent carry this risk in its commercial pricing, subject to an obligation to provide access to third parties on non-discriminatory terms. To the extent that these risks exist and are material, the incumbent will be able to capture them in its pricing. Consumer protection is provided not only by the non-discrimination obligation, but also by the constraining effect of regulation on wholesale copper broadband services (a demand-side substitute for fibre broadband services, at least during the initial stage of fibre deployment given the lack of unique fibre-based applications).

¹² As mentioned in response to a previous question, fibre access is currently not price regulated in the UK.

¹³ Commission Recommendation of 20/09/2010 on regulated access to Next Generation Access Networks (NGA).

This is indeed the approach currently adopted in the UK, which BT believes strikes the right balance between encouraging the roll-out of NGA networks and allowing consumers to enjoy the benefits of competition. Clearly, the success of such an approach lies on ensuring the effectiveness of the non-discrimination obligation, which in the UK is achieved via the set of legally-enforceable Undertakings underpinning the functional separation of Openreach as well as the imposition of Equivalence of Inputs as an SMP remedy for VULA.

However, should an NRA decide that fibre access needs to be price regulated from the outset, BT agrees that explicit recognition needs to be made of the significant risk associated with NGA deployment. In doing so, it is important to distinguish between the different types of risk, in particular, between systematic (non-diversifiable) and non-systematic (diversifiable or idiosyncratic risk).

In determining the WACC, finance theory (in particular, the CAPM model) indicates that only systematic risk should be included on the assumption that investors can protect themselves from non-systematic risks by holding a diversified portfolio of investments.

In considering the systematic risk of fibre services, there are many reasons to believe that it is likely to be larger than that for copper (and hence that a higher WACC for fibre is appropriate).¹⁴ For example, NGA networks will have higher operational leverage (more fixed costs relative to variable costs) – hence, changes in demand will have a larger impact on profits and cash flows than copper, resulting in higher volatility and risk. Similarly, NGA networks are likely to require a longer time period for returns, which increases riskiness, and have a larger option value (i.e., the value lost by undertaking an irreversible investment, rather than waiting to learn more about the sources of uncertainty in the business case: demand, willingness to pay and costs) which raises the hurdle rate for investment. In addition, it has been suggested that demand for NGA services are likely to have a larger income elasticity of demand, which would raise the beta factor of these services in a CAPM model.

However, in addition to systematic risk, NGA investments also entail a considerable degree of non-systematic risk that would be ignored under traditional WACC estimates but is nevertheless a real factor affecting the investment incentives of firms. Indeed, much of the uncertainty and sources of risk identified by the Commission's NGA recommendation is of the non-systematic type.

In particular, volume and demand uncertainty, i.e., the risk that demand and/or willingness to pay for NGA services turns out to be lower than the break-even point which would make the investment worthwhile, would not be captured in traditional WACC estimates. The only way to capture this risk *ex-ante* is by ensuring that, if demand turns out to be high, the investor is allowed returns larger than the project's WACC (where the latter is calculated taking account of systematic risks, as explained above).

In other words, the NRA should ensure the NGA investment represents a 'fair bet' from an *ex ante* basis, which means committing to allow above average returns in the good scenarios, in recognition of the fact that the investment was undertaken at a time when bad scenarios could have also materialised. Putting this approach into practice would require taking a view on the *ex-ante* probability of different demand scenarios materialising in order to ensure that the *ex-ante* returns are in line with the overall project's WACC, but committing to allowing the firm to earn above WACC returns in the good scenarios.

¹⁴ See Plum (2011), Costing methodology and transition to next generation access, March, section 6.3, pg. 48-49.

An example of such an approach is that adopted by OPTA in The Netherlands, which allows Reggefiber a premium of 3.5% on top of WACC in high demand scenarios.

Question 19: What role do copper prices and a price differential to fibre access play with respect to NGA investments?

Question 20: Would, in your view, a price increase for copper access products have an impact on the incentives of SMP operators and the economic capacity of alternative operators to invest in NGA?

Question 21: What results could be expected in case of a significant reduction in the copper access prices on consumers and operators, e.g. in terms of retail copper/fibre-based broadband prices and fibre investment incentives?

Basic economic analysis is that in order to switch from copper to fibre, consumers and businesses need to perceive that the extra value and benefits from fibre-based services justify the extra costs. Intervention which aims at lowering the cost of copper access services will cause the price differential between copper and fibre to increase and hence reduce the demand for fibre services. This in turn will disincentivise fibre investment and supply.

BT appreciates that there is another effect at work – if copper based services are priced above their cost of supply (i.e., above the level necessary to allow BT to recover all relevant and efficiently incurred costs) then there will be a disincentive to invest in fibre if the fibre replaces a local loop otherwise provided by the incumbent. This is because part of the costs of fibre provision would include the ‘opportunity cost’ of the excess profits made on copper access services. However, (i) there is no such surplus in the UK and (ii) there is extensive cable competition where fibre is being deployed, so fibre lines will not always replace lines which BT can be presumed to otherwise supply. Indeed, BT’s fibre-based rollout plans are being implemented against infrastructure based competition from cable networks (Virgin Media, through its DOCSIS 3.0 network upgrade).

From this perspective, as long as copper prices allow BT to recover all relevant and efficiently incurred costs, they would provide the degree of regulatory certainty and stability necessary to maintain BT’s incentives to deploy fibre in the UK.

In fact, if copper prices are set below this level, we would be concerned that: (i) it would depress the price that can be set for fibre-based services (given copper-based broadband services are a close demand-side substitute, at least in the initial stages of fibre deployment), thereby limiting the returns that can be earned on NGA networks; (ii) it would reduce an important source of cash for the business, which could impact on the speed and/or scope of NGA deployment; (iii) it would introduce significant regulatory risk on the fibre business case, as it signals that the regulator could intervene in the future by limiting the prospects of full cost recovery of such a major investment. Importantly, such effects would not only be felt by BT or other European incumbents, but by other infrastructure providers which had already started or were planning to invest in their own NGA networks.

As stated in our answer to question 5, in exceptional circumstances, such as ISDN30, an adjustment to the asset base to capture a ‘steady state’ level of costs in order to reflect the fact that a product is reaching the end of its economic life and is being superseded by new, more efficient products, is justified to provide the appropriate economic incentives for investment and migration.

Overall, therefore, it is clear to BT that a significant reduction in the copper access prices on consumers will have an adverse effect on fibre take-up and fibre investment incentives in the UK.

Questions 22-32: Appropriateness of copper switch-off

Question 22: Do you consider that the parallel running of copper and fibre networks create inefficiencies for both SMP operators and alternative operators? Would this lower the incentives to invest in NGA networks? Do you consider, in this regard, that the migration from copper to fibre should be carried out in a relatively short timeframe in order to minimise such inefficiencies and increase the incentives to invest in fibre networks?

We recognise the theoretical point that deploying multiple networks to support a similar set of services to a fixed population would increase static (cost) inefficiencies. However, there are also a number of factors which could mean that parallel running is indeed a more efficient approach – at least for a transitory period (which could extend for many years). For example, the set of services that can be offered over the fibre network may be quite different to those provided over copper, both at retail and wholesale levels. The fibre-based service portfolio is likely to be much richer in functionality terms, but the wholesale service offerings which are appropriate or efficient to offer over a fibre network may be quite different, and support a quite different structure of competition downstream.

Therefore any transition programme needs to address a fundamental question – whether or not to initially replicate all wholesale and retail services currently offered over copper (in addition to adding new service types enabled by fibre technology). On one hand, if the current portfolio is replicated, this is likely to lead to inefficiencies as demand for obsolescent service types moves over time to newer richer fibre-based services. On the other hand, if the existing portfolio is not replicated, all players have an immediate need to change their business models, systems, processes, etc. – or to exit the markets. The alternative approach of parallel running for an extensive period allows these inefficiencies to be avoided – and allows customers and markets to make choices over time. Of course, with this approach it is clear that the systematic reduction in prices for copper-based services would act as a big deterrent to migration to fibre – for customers and investors.

Migration from copper to fibre should be done at a pace which allows a degree of choice for the consumers of the services carried.

Question 23: Could a copper switch-off accompany a steered copper to fibre migration? In this respect, in what circumstances, in which areas and in what timeframe would a copper switch-off be appropriate?

We would expect that a phased approach would be needed for any such transition. This would start with voluntary migration with copper and fibre parallel running. During this phase we would expect there to be flexibility to provide encouragement and incentives for retail and wholesale customers to move to the new network – including through attractive pricing schemes and indications of eventual switch-off of copper-based networks and services. The next phase, where such services could be switched off would occur in areas where new fibre networks are established, and once the new competitive landscape based on fibre-delivered services is in place. For initial fibre deployments, this phase may require some years notice – but this may be reduced as the new fibre-based portfolio of services becomes established.

Question 24: With regard to copper switch-off, how could those consumers be served which would also, post-migration, demand fixed narrowband telephony services at a rate comparable to today's rates? Do you consider that the benefits associated with the provision of higher quality

services could outweigh the associated potential price increase of basic internet and telephony services?

We already see an ever-increasing trend towards consumers taking bundles of broadband and voice services and the challenge going forward, over both copper and fibre, will be to determine how best to recover fixed and common costs across both. We would expect the number of voice-only households to continue to decline but it is likely that there will remain a small but significant minority of such consumers. There may also be some customers who would prefer to remain on a basic broadband service. Given that the costs of provision may well be higher for fibre compared to copper services (albeit with fibre offering greater functionality), there may indeed be an associated price increase, assuming prices are cost-oriented, and a need to address the position of those customers who only require a basic level of voice or internet service through some form of anchor product or pricing and/or a subsidy for disadvantaged groups. It is too early to judge the scale of this issue but it may have implications for incumbents' universal service obligations.

Question 25: How would NGA network migration occur in a world where multiple infrastructures exist and where it could not be taken for granted that copper customers migrate to fibre rather than cable and/or 4G mobile? How would this uncertainty affect the investment incentives of the SMP/alternative operators?

This highly competitive scenario is indeed a reality across much of the UK given the competition offered by mobile and cable networks and any such migration away from the fixed network (particularly if triggered by an unwanted 'forced transition') will necessarily dilute expected returns from the NGA investment – and increase investment risks.

This point illustrates the need to consider a period of parallel running, to establish with greater confidence both the expected investment returns for new NGA networks and the concerns and needs of customers.

Question 26: What would be the main operating costs, technical difficulties (for SMP operators) and service discontinuity issues stemming from both the copper switch-off and the migration from copper to fibre? In this respect, do you consider that some services which are currently provided over copper could not be provided over fibre?

There are likely to be a very wide range of operational and technical issues of this nature – including the need to ensure competitively-provided terminal equipment is compatible with the new network, or at least that all affected end users are able to understand, ahead of any migration, the risk that their equipment may or may not be compatible, and what options are available. This gives rise to a need for all affected communications providers to communicate clearly to their customers well ahead of any migration. This would need to cover particularly sensitive applications or equipment likely to be used for applications such as telecare alarms, security or fire alarms, machine to machine interfaces (such as electronic funds transfer equipment).

It is highly likely that there will be applications and service types which will not be economic to replicate over the NGA network. It will be important to identify such cases as early as possible, so that affected stakeholders can consider alternatives to support their needs. In some cases (such as lower bandwidth symmetric services) this may give rise to demands for replicated services, which would require higher charges to recover the additional development or operational costs. It will be important for the regulatory regime to provide sufficient flexibility for this. It is also likely that in a small number of cases, it would not be technically feasible to replicate the copper-based services at all (for example where the very low latency of the copper-based service has been used by the

consuming organisation as part of a complex end to end solution – such as telemetry or auto-switching).

Question 27: What could be the obstacles to a swift migration from copper to fibre in terms of economic viability, consumers' switching costs (such as consumer inertia, reluctance to switch provider when advantages in price and/or quality are not perceived), construction works, ownership rights etc.? In this respect can a clear distinction be made between areas where migration will and will not occur within a reasonable timeframe?

Our answers to questions 22 to 27 above indicate some of the obstacles to a swift migration from copper to fibre. This question does however assume that the 'end-game' is a cut-over to a 100% fibre network. As indicated elsewhere in this response, we do not believe this is likely or even desirable. In the short to medium term, it is more likely that such a migration will occur in more limited geographic circumstances, such as where a local exchange building needs replacing and it makes economic sense to deploy a fibre-only alternative. Fibre-only networks will of course continue to be deployed at 'greenfield' new developments.

Question 28: Could current copper based alternative operators adapt smoothly to the new NGA environment and continue running their business over the new fibre networks?

We believe that most current copper based alternative operators could adapt to the new NGA environment but in all cases they would need to make adjustments to their business models and interconnection plans. It is not feasible to simply replicate current copper-based wholesale products on a fibre network. LLU is impossible to replicate technically and WLR is unlikely to be feasible to replicate economically. In practice, therefore, some communications provider business models are likely to become obsolete. CP business models which involve directly purchasing fibre-based broadband connectivity services are likely to sustain and will have commonality with the LLU/MPF-based market structure of today.

Charge controls for copper based products

The central objective of price control regulation is to set prices such as that at the end of the price control period, the average price of the basket of services in the control should be in line with efficiently-incurred costs. Fundamental to the setting of price controls is therefore both volume and cost forecasts.

The central benefit of price controls used in the UK since 1984 is their incentive properties for cost efficiencies¹⁵. To have such a benefit, price controls can only be used where volume and cost forecasts can be made with a reasonable degree of accuracy.

Price controls, as they have been used in the UK to date, aim to set competitive price levels and not to encourage investment in new services, the latter being achieved by the deliberate decision not to impose price regulation so that normal commercial incentives apply for the development of new services.

¹⁵ Price controls as used in the UK are known as a form of incentive regulation because some of the out-performance against the targets which are implicit in a control (in particular, targets for efficiency) can be retained by the regulated supplier. This is achieved by a glide path in the next period, which means that some of the gains from out-performance are kept, albeit on a declining basis, as the next control re-aligns prices with a new cost projection which reflects the over-achievement in the preceding period. (The process works in reverse if actual costs are higher than projected.)

Question 29: How could an access pricing scheme that combines both copper and fibre be constructed in order to ensure efficient migration to fibre and achieve the DAE targets?

In principle, a price control could cover both the costs and the volumes of copper and fibre access products. However, it must be recognised that there will be more uncertainty over the costs and volumes if the control is extended to fibre as the likely level of consumer demand for fibre is unclear. BT has also invested heavily in fibre to date and any price control would need to consider the start-up costs and other expenditures incurred in the past for fibre services which are only now being sold in volume.

Going further than combining copper and fibre access charges into a single basket and, for example, linking copper prices to a specified level of fibre investment would be a very significant step. Before doing so, it would somehow need to be established what levels of investment should be included. Who is to decide this? Further, suppliers subject to price control regulation cannot be expected to commit to invest significant amounts of shareholders' funds in fibre which they do not consider to offer a commercial return.

Question 30: Could a pricing scheme for copper be envisaged that rewards fibre investors at those exchanges where a credible commitment is made to carry out NGA investments? In this respect, could prices for copper access at those exchanges (or in those areas) where fibre investments are carried out be calculated on the basis of i) the average cost of copper and fibre access, ii) the MEA approach, i.e. entirely reflect the cost of fibre deployment?

Such a scheme can of course be 'envisaged' on a theoretical basis, with the central question being how the level of commitment is to be agreed. Much further thought would need to be given to the implications for such a regime for copper prices to ensure both (i) an opportunity for cost recovery for the supplier and (ii) that customers do not face large increases in the prices for copper-based access services, nationally or in different geographic areas, dependent on fibre deployment. We believe there is a strong likelihood that such a scheme will have unintended consequences. More fundamentally, as discussed above, we do not believe such a 'conditional pricing' approach is consistent with the EU framework nor are any new regulatory 'incentives' or interventions needed to incentivise fibre deployment, provided investors believe they will be allowed to make reasonable returns.

We do not consider that the MEA approach can be adopted for the reasons given in our response to Question 15 above.

Question 31: With regard to question 30, what would be an appropriate time-frame for such an incentive pricing scheme, i.e. for how long should higher copper prices apply and by which time should fibre investments be finalised?

Question 32: In case a glide path for copper based access prices were to be used, what would be the appropriate length and intermediate steps of such a glide path?

One cannot start by asking the question 'how long should price regulation apply' as the time-frame would very much depend on the level of commitment envisaged. Such a price control would reflect a policy and thus it is the policy (which needs first to be agreed) that will drive the price control.

However, it must be recognised that the current 3 year cycle for price controls is likely to be too short for such a system of regulation. A longer term control would be needed and, due to the uncertainties involved in setting such a complicated control, this is likely to need reviewing during its life-time. (The analogy here is with long term contracts which need to allow for variations over the

life time of the contract.) This would be a very major departure from the form of price regulation which has been used in the UK for over 25 years and which is currently embodied in the EU telecoms framework. As such it goes well beyond a debate about 'costing methodologies for wholesale access services' and requires a more fundamental policy debate and wider consultation.

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