



Creating a brighter future

Response to the 'Consultation on Costing Methodologies for Key Wholesale Access Prices in Electronic Communications'

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28 November 2011

Introduction

The FTTH Council Europe (hereinafter the FTTH Council) welcomes the opportunity to participate in this ‘Consultation on Costing Methodologies for Key Wholesale Access Prices in Electronic Communications’.

The FTTH Council Europe is an industry organisation with a mission to accelerate the availability of fibre-based, ultra-high-speed access networks to consumers and businesses. The Council promotes this technology because it will deliver a flow of new services that enhances the quality of life, contributes to a better environment and increased competitiveness. The FTTH Council Europe consists of more than 150 member companies. Its members include leading telecommunications companies and many world leaders in the telecommunications industry (additional information is available at www.ftthcouncil.eu). Telecoms operators are not members of the FTTH Council and we have our own perspectives regarding the appropriate regulatory policies to accelerate NGA deployments.

The FTTH Council’s interest is to see the benefits of FTTH made available to the greatest extent possible and in the shortest possible period of time. A competitive market dynamic is central to achieving our objective both for accelerating FTTH deployment directly where competitive deployment is possible and also indirectly, by driving service innovation and demand, where competitive deployment is not possible.

The FTTH Council believes that the methodology chosen to set access prices should be policy driven in the first instance. The ultimate decision on costing of access prices should be about whether higher or lower access prices are more likely to lead to a rapid deployment of fibre deep in the network (FTTH/B). It is not clear to the FTTH Council at this stage whether high or low copper prices would be best for enabling FTTH deployments; it is not clear to the FTTH Council whether there is one answer and it seems very likely that the specific circumstances of national markets and factors such as the extent and depth of competition, the prevailing retail prices might lead to different conclusions. In this regard the Council is doing its own research to help it to make a full assessment on this point.

However, if the Commission’s own research leads it to conclude that lower wholesale copper prices are appropriate, the FTTH Council believes it is essential that this is not reflected in a reduction in the retail broadband pricing which would undermine the ability to persuade customers to upgrade to fibre. Therefore maintaining (at least) current price points in the retail market is important. Balancing low copper while retaining retail prices might be achieved in a number of ways but the Council considers that averaging fibre and copper tariffs or siphoning off the difference between actual and regulated copper costs¹ are the most promising methods.

The FTTH Council believe that it is important to recognise that accelerating FTTH roll out has many different aspects or components and that no single component will drive fibre investments by themselves. The FTTH Council believe that access prices must be set so as to ensure competitive entry is viable. NRAs may also wish to encourage entry at particular points on the value chain and this was certainly the case in the past and the FTTH Council see echoes of that experience today, particularly in the context of certain bitstream access

¹ See for instance: M. Cave, A. Fournier, N. Shutova ‘The Price of Copper and the Transition to Fibre’. 2011

products such as VULA. In the deployment of first generation broadband, when NRAs set bitstream access prices, the standard access cost-model was a retail-minus pricing model precisely because NRAs had no idea of the extent to which ULL could be used efficiently as an entry mechanism. No NRA in Europe set a more rigorous cost-based bitstream access in the initial years of that access product being available. Since, at that time, NRAs wished to see as much ULL used to the greatest extent possible they attempted to set a low access price for that product and a relatively high bitstream access price. Over time, as NRAs came to better understand the economics of unbundling they started to make a migration towards cost based bitstream access (since there was now a high degree of comfort that ULL would not be crowded out by cheaper bitstream access). A similar situation may arise today and policy makers should react appropriately to the uncertainty about how markets will develop in the future.

The FTTH Council therefore believes that extreme caution should be given to any attempt to set a precisely defined ‘cost’ based access price in the context of fibre access products. Such an approach requires a level of knowledge that is not available to anyone today. Greater emphasis should therefore be placed on the relative price of access products.

The FTTH Council also notes with some concern the poor level of compliance by NRAs with the Commission’s NGA Recommendation². The Council has expressed concerns about certain aspects of that Recommendation in the past but realises that a final Recommendation’s main advantage would be to reduce the degree of uncertainty in the market. However, much uncertainty remains in place since according to BEREC’s data³ the current state of access products on NGA is:

Table 1: Availability of Basic Access Products

	Yes	No
FTTH ULL	10	19
FTTN ULL	19	10
FTTH WBA	16	13
FTTN WBA	20	9

The poor current level of compliance might mean that moving to a new pricing scheme for copper will not introduce any meaningful additional uncertainty given the current state of compliance. Ensuring that all necessary access products are in place is critically important as is the pricing required. However, based on the current failure to implement a harmonised access regime for NGA access, the challenge of harmonising the nuances of cost models looks even more daunting. It seems particularly important to the FTTH Council that National Regulators clearly understand and agree to the direction policy makers wish to see pricing

² Ref!

³ See: http://erg.eu.int/doc/berec/bor_11_43.pdf and the accompanying data file http://erg.eu.int/doc/berec/bor_11_43.xlsx

moving. Without such clarity and up-front agreement from National Regulators the risk is of a repeated lack of implementation and thereby harmonisation.

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

Yes, the FTTH Council broadly agrees with the problem definition. The FTTH Council believes that it is tautologically correct to assert that the relationship between the price of two potentially competing inputs will impact on relative investment decisions and that copper prices must impact the decision whether to invest or not in fibre.

The FTTH Council believes that the future needs of broadband users can only be met by bringing fibre directly to the subscriber. Thus, Fibre to the Home (FTTH) is perceived by the FTTH Council as the clear end game. While other solutions including fibre hybrids and even wireless solutions will play an important role as complements, they will in no way act as demand substitutes. The need for a FTTH solution relates to the realistic future needs of end users in terms of capacity and is entirely consistent with the need for technological neutrality.

The FTTH Council believe that the DAE targets need to be refined and believes that there is a need to specify upload speeds (possibly that the targets should be, or have a path to, symmetry) and also whether the specified speeds are guaranteed. The FTTH Council also believes that there needs to be clear warning given on the dangers of large scale investments in time-limited infrastructures which are unlikely to be adequate to meet end user needs in the medium term. The EU2020 Strategy and the associated Digital Agenda for Europe identify 30 Mbit/s availability as a universal requirement (and 100 Mbit/s as being close to universally available since 50% subscription implies a much higher availability). Solutions such as FTTC are unlikely to be adequate for the future needs of broadband users and will most likely delay the ultimate migration for these users to FTTH and need to be avoided if Europe is to meet the targets which the Commission has set for it.

Any signals or measures which would delay or impede the momentum to a FTTH solution should be resisted in our view, both because such investments are potentially wasteful of economic resources and are damaging to the market dynamic.

The suggestion that costing methodologies are not harmonised is also of concern and the cost differences suggested in this section look very large. However, it is the application of consistent methodologies which give a consistent set of results, in national circumstances, which will be important.

The FTTH Council fully supports the assertion that adequate returns on investment should be delivered so that FTTH investments are encouraged. Therefore the need to ensure an adequate return must concentrate on the potential returns available over fibre networks. Maintaining retail prices at current levels for copper should allow fibre deployments to earn a sufficient return.

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.

NO. The FTTH Council believes that the proposed listing of access products suggests that VULA is something more than a bitstream product and that it amounts to a form virtual LLU.

The FTTH Council is anxious that the Commission recognise that the VULA product proposed is really a bitstream product and that it is not a substitute for ULL. It is disingenuous to suggest otherwise in the Council's view as the FTTH Council knows that VULA is not a substitute for ULL. The FTTH Council believes that a 'Virtual' equivalent to ULL could be developed but does not exist on the market today.

If the Commission is minded to maintain the existing VULA product in its access product set, the FTTH Council believes that the Commission should be consistent and break out the general bitstream products into the other components that constitute the bitstream product set. For instance bitstream products delivered at a National point of interconnect and with the lowest level of functionality could be called NULA, and bitstream access delivered at a Regional level could be considered RULA while the more common bitstream access product taken at the Local exchange or MDF could be called LULA and so on ad absurdum.

An additional access product which would actually be an equivalent to ULL and which would allow the same degree of functional and technological independence as copper unbundling may exist in the future but is not on the market today.

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

Setting the technical parameters of a costing model to derive what might be fashioned a 'Goldilocks' price point, not too high and not too low looks misguided and better left to the Commission's own experts rather than put to a public consultation.

Without a clear policy driver which selects the appropriate level of pricing and pricing relativities to guide policy makers, any attempt to set a 'correct' price point looks misguided. What is clear is that with the current pricing levels little progress on the network aspects of the Digital Agenda have been achieved and incremental changes are unlikely to change that.

The FTTH Council believe that it is important to recognise that accelerating FTTH roll out has many different aspects or components and that no single component will drive fibre investments by themselves. The FTTH Council also believe that the relative position of pricing will often be more important than a rigorous application of a particular cost methodology with specific adjustments.

A full analysis needs to be done assessing the impact of higher or lower prices in a given set of market circumstances on the incentives to invest. The FTTH Council believes that the impact of prices movements may be different in different market circumstances. For instance, if the DSL network is underdeveloped (as it is in certain Member States) or if LLU operators are stronger in a different Member State, a given price structure may elicit different responses from the market actors. It may also be that the impact will be different within certain markets and that different geographic regions could react differently given the obvious difference in cost structures.

Once a clear policy position has been set, (for example if it is decided that high copper prices are likely to be a block on fibre investments even if low copper prices do not necessarily encourage such investment) then the Commission should determine the best methodology to bring that result into being. While that would probably mean a LRIC model with Historic Cost Accounting base and built in a Bottom-Up manner, it is the direction of policy (higher or lower copper prices) which will be most important.

The FTTH Council believes that more research needs to be done to determine the appropriate response and cautions that, in any event, it is only one of many elements that need to be in place in order to accelerate a fibre roll-out.

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

Please see the answer to question 3 above.

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?

Please see the answer to question 3 above.

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?

Please see the answer to question 3 above.

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?

Yes, the FTTH Council would expect to see FTTH networks built in a cost efficient manner and suggests that topology or technology choices by network operators will be cost efficient in specific deployments (even if a variety of models is adopted). However, the selection of a costing methodology should not necessarily be associated with a specific network deployment and again needs to be chosen in the context of a broader policy decision.

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)?

Yes, the FTTH Council think in principle that it is possible to value assets differently depending on their replicability. After choosing high or low prices for coppers access products a choice must be made to decide whether or not copper should be priced as replicable, whether basic passive infrastructures and indeed whether or not fibre should be viewed as replicable (and where).

The FTTH Council notes that this will require NRAs to set out a long term vision and act on it. The FTTH Council think this is the appropriate way to address this matter but it is not obvious that NRAs would be willing to do so given their caution to date with some notable exceptions (such as Arcep). The FTTH Council notes that Arcep have taken a long term view and have judged that fibre networks are replicable (within limits) and have regulated accordingly. The Council also sees the Commission's own actions as supporting possible replication (multi-fibre solutions) while also advocating single deployments (co-investment). These are not inconsistent but can and should point to nuances that can drive the decision.

The FTTH Council has long advocated a view that if fibre networks are replicable in certain areas, that the benefits of competition would outweigh the costs of duplication. The Council has further advocated measures to ensure such an outcome (competing networks). However, the Commission has advocated a different approach. What is proposed now is to revisit that decision. It may be that specific areas will support FTTH replication but the broader incentive structure or the failure to put co-ordination measures (e.g. for a joint deployment or a co-investment structure) or other facilitator measures (e.g. in-building wiring, fibre from the flexibility or mutualisation point) in place means that such replication is less likely to happen. The danger then is that access prices are set which, over time, do not encourage network entry but undermine service competition (and thereby take-up).

The reason behind the omission by the Commission of geographic segmentation in the context of replicability is not clear. It seems to the FTTH Council that determining replicability or non-replicability of assets will vary by region with very densely populated areas with a very high proportion of MDUs is likely to permit network replicability whilst low density SDU area profiles are less likely to support replication.

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

The FTTH Council believes that a period of 10 years is the appropriate period in which to judge replicability. While the State Aid guidelines require business plans to show replicability in a shorter period, the context and impact is different. The Council believes that the business case should be assessed over longer periods, ideally up to 20 years (since these are long term asset investments) but realise that the difficulties in looking so far forward would be difficult to overcome. Hence 10 years is a compromise which is short enough. The FTTH Council believes that a failure to see historical replication of network assets is not

likely to be any guide to the future replicability of access network assets. For instance, an area which has poor DSL based competition may indeed support multiple fibre deployments in the right context (perhaps via co-investment) even if limited or no competition emerged on the copper assets in the past.

There is also a danger that the judgement of a lack of replicability will be a self-fulfilling prophesy.

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)?

The FTTH believes that very low prices should be set for non-replicable legacy assets since these will not need to be renewed (by definition). Replicable assets must be compensated on a full cost basis since the signal about whether to build or buy will be critically addressed in the access price set. Indeed, if for replicable assets there is a tendency to deviate from accurate prices then policy makers ought to tend towards higher prices so as to encourage replication.

One caveat regarding non-replicable infrastructures is that legacy non-replicable infrastructures must be treated differently from non-replicable infrastructures which have not yet been built. For instance, a duct network which was built 40 or 60 years ago should be treated differently from a duct network which is only now being built in order to facilitate FTTH.

The modalities of setting the lowest price for non-replicable assets should be chosen to achieve that aim (probably IRA).

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?

The FTTH Council believe that a CCA cost base may be appropriate but that HCA should also be considered. As noted in the response to question 10 above, any tendency should be to specify prices which at least compensate the assets in question, otherwise replication will be undermined.

Since these networks are only being deployed now, the differences between a CCA and HCA cost base are unlikely to be material in any event. HCA may allow more discretion to national regulators to ensure costs are not underestimated.

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

No. The FTTH Council does not believe that there are any circumstances under which copper should be considered a replicable asset. To suggest that copper might be replicated would seem to be contrary to the DAE strategy and what the Council understands to be the objective of this costing exercise.

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?

No. The FTTH Council believes that the cost model deployed should fully compensate the investment and should reflect the context in which the investment is being made.

A LRIC model delivers a marginal cost recovery which would not compensate for the investment itself. No NRA currently uses such a model for setting access prices except in a termination context, rather they use a LRIC+ model where the '+' represents the appropriate mark-up to ensure the network costs are recovered. A LRIC+ model might be appropriate but not a LRIC model.

The Council sees the differences between a CCA and HCA cost base are unlikely to be material in any event. HCA may allow more discretion to national regulators to ensure costs are not underestimated but notes that any differences will be small.

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?

The FTTH believes that very low prices should be set for non-replicable legacy assets since these will not need to be renewed (by definition). One caveat regarding non-replicable infrastructures is that legacy non-replicable infrastructures must be treated differently from non-replicable infrastructures which have not yet been built. For instance, a duct network which was built 40 or 60 years ago should be treated differently from a duct network which is only now being built in order to facilitate FTTH.

On the other hand replicable assets must be compensated on a full cost basis since the signal about whether to build or buy will be critically addressed in the access price set. If there is any doubt, then policy makers ought to tend towards higher prices so as to encourage replication.

The FTTH Council believe that fibre networks will be replicable in certain instances. If we take the standard black, grey and white model of analysis where black is potentially competitive with more than one access network being viable, grey being capable of supporting only one network and white not being capable of commercially supporting any networks; the FTTH Council believe that a range of deployment models could be used to achieve maximum FTTH coverage. A competitive deployment may be appropriate in urban areas based purely on a sharing of low cost passive infrastructures while much more support

to facilitate co-operative/collaborative deployment models will be needed as operators move to grey areas.

The FTTH Council believe that regulators will need to geographically isolate those areas where the chances for replicability are greater from those where replicability is unlikely to be possible.

The Commission's costing approach will dictate whether infrastructure competition should be pursued where it is possible.

Today, there is a broad range of solutions, technologies and deployment models which are all competing with each other in the market. This does not imply though that the Commission should opt for or favour a particular technology or deployment model. On the contrary the FTTH Council believe that the solutions deployed should be determined on the market.

The FTTH Council supports setting access prices which promote entry in the most appropriate way on the market depending on market circumstances.

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?

The FTTH Council believes that the MEA for copper is fibre, the question to be answered is what would a network operator building a new network today deploy. The only logical answer must be a fibre network. However, cost models cannot slavishly follow protocols without considering the consequences and whether those consequences are logical or not. Using fibre as a copper MEA would lead to the Copper asset being valued on the basis of a fibre input which may not be appropriate. For this reason, questions of MEA should not arise. Instead the FTTH Council believe that copper should be priced according to market circumstances so as to ensure a rapid increase in fibre investments in the future.

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?

The FTTH Council believe that consistency in terms of pricing along the value chain is critical to ensure the correct build or buy signals are sent. However, it does not necessarily follow that this requires that the same cost model needs to be used, it may even be that using the same cost model would be inappropriate in certain circumstances.

It is clear that access prices must be set so as to ensure competitive entry is viable. However, NRAs may also wish to encourage entry at particular points on the value chain and this was certainly the case in the past. When NRAs set bitstream access prices shortly after ULL was introduced, the standard model was a retail minus pricing model precisely because NRAs had no idea of the extent to which ULL could be used efficiently as an entry mechanism. No NRA in Europe set cost based bitstream access in the initial years of it being available. Since NRAs wished to see as ULL set to the greatest extent possible they attempted to set a low

access price for that product and a relatively high bitstream access price. Over time, as NRAs came to understand better the economics of unbundling they started to make a migration towards cost based bitstream access (since there was now a high degree of comfort that ULL would not be crowded out by bitstream access).

The FTTH Council believes that there is at least as much and more lack of knowledge today regarding FTTH costs and the scope for competition (which will also depend on future services development and demand as much as cost considerations) as there was in the early 2000s regarding copper networks and the development of competition on those networks.

Bright line differences between access products may be appropriate in such a context. For example, if multiple FTTH access networks look viable and desirable then high access prices could be very appropriate. If multiple FTTH access networks do not look viable or are not desirable then a different approach to access prices may be desirable.

How this pricing structure is achieved does not look important to the Council but the prices relative to each other is crucially important. If that means using Top Down LRIC+/HCA for physical access pricing and retail minus pricing for bitstream to maximise the differences between the different access products then that could be appropriate.

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?

Yes, migration to FTTH will be a driver to meet the DAE targets. The DAE targets are poorly specified in that they are silent on the upload/download dimension of these networks and also whether such speeds should be guaranteed or not. The FTTH Council believe that the future needs of broadband users and the delivery of faster and greener economic growth can only be met by bringing fibre directly to the subscriber. Thus, Fibre to the Home (FTTH) is perceived by the FTTH Council as the clear end game. While other solutions including fibre hybrids and even wireless solutions will play an important role as complements, they will in no way act as demand substitutes. The need for a FTTH solution relates to the realistic future needs of end users in terms of capacity and is entirely consistent with the need for technological neutrality. A growing body of research shows the economic and societal benefits of very high speed internet access (particularly high upload speeds)⁴ and that the availability of such connectivity changes the way consumers react to the internet. A big difference between FTTH and DSL options is the potential upload speeds. The many business cases put forward by different analysts rely on a variety of services which require radically different upload speeds (e.g. home security, home health-care for the elderly etc.)⁵. Finally, in the context of costing networks which are invested in with long time horizons, the Commission should also acknowledge that there will be even higher bandwidths needed beyond 2020.

Ofcom in the UK and CMT in Spain have tested network delivery speeds against advertised speeds and have highlighted the persistent underperformance of DSL networks, a more systematic and Europe-wide assessment would be a good complement to the current

⁴ See for example http://www.ftthcouncil.eu/documents/studies/Socio-Economics_Study.pdf

⁵ See for example http://www.ftthcouncil.eu/documents/studies/Analysis_of_Service_Portfolios.pdf

proposals on transparency regarding what is delivered over those networks and the Council are pleased to see the Commission are currently working on such as study⁶.

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?

The FTTH Council believes that the Commission needs to ensure that FTTH investments are encouraged by ensuring that a sufficiently high return is earned on FTTH investments. The Commission must acknowledge that standard cost methodologies may need to be modified in the context of the current financial market turbulence. For instance the FTTH Council notes that the risk free rate of return which is based in a given Member State on the return on a Government 10 year bond which are now moving dramatically though the risk associated with existing networks remain unchanged. The setting of a risk premium should be positioned simply in the way as to indicate that NRAs have discretion to set an appropriate price for fibre to ensure that investments are made in a timely manner.

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

The FTTH Council believes the price of copper does impact on the incentives to invest in fibre but we do not know what that impact will be and whether there will be a consistent impact in different market circumstances. The FTTH Council believes more research needs to be done but at this stage it believes that market circumstances (level of competition, network development and structure, cable penetration, level of take-up, pricing etc) will have a material impact on the impact of a change in copper on incentives to invest in fibre. Therefore, one uniform answer is unlikely to be possible.

The Council also believe that other factors will be at least as important as copper pricing in determining the pace of fibre investments (e.g. the level of demand, the level of network competition and so on) and that if those elements are not in place then getting the pricing of copper right will not have a material impact on the market outcomes by itself. The FTTH Council therefore do not see the level of copper prices driving investment in fibre but do see it as one of a number of inputs to investment decisions.

This is a very important distinction. While Lithuania for instance has low copper prices and high FTTH deployment it was a myriad of other factors from the demand side and supply side which also pushed FTTH roll-out. Other Member States may have quite low copper prices, Austria for instance, even though FTTH deployment is much more limited precisely because some of the other demand or supply side factors are not in place.

The FTTH Council notes the negative impact that very low retail broadband prices would have on FTTH deployment and cautions against feeding any possible wholesale price reductions directly through to the retail market as the migration from copper to FTTH will be harder to achieve in that context.

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?

The FTTH Council believes the price of copper does impact on the incentives to invest in fibre but we do not know what that impact will be and whether there will be a consistent impact in different market circumstances. The FTTH Council believes more research needs to be done but at this stage it believes that market circumstances (level of competition, network development and structure, cable penetration, level of take-up, pricing etc) will also have a material impact on the impact of a change in copper on incentives to invest in fibre. If this is the case and those factors vary by region and/or country, one uniform answer is unlikely to be possible.

One caveat is that when an area has 70 to 80% FTTH, higher copper prices could be considered to induce switching of the residual customers in order to switch off the copper network.

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?

The FTTH Council believes the price of copper does impact on the incentives to invest in fibre but we do not know what that impact will be and whether there will be a consistent impact in different market circumstances. The FTTH Council believes more research needs to be done but at this stage it believes that market circumstances (level of competition, network development and structure, cable penetration, level of take-up, pricing etc) will have a material impact on the impact of a change in copper on incentives to invest in fibre. Therefore, one uniform answer is unlikely to be possible.

Low copper prices will normally lead to reduced retail pricing on copper based broadband products. The FTTH Council believes low retail copper-based broadband prices will have a negative impact on FTTH deployment.

The FTTH Council therefore cautions against feeding such price reductions directly through to the retail market as the migration from copper to FTTH will be harder to achieve in that context.

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?

Yes the FTTH Council believes it is inefficient to run two networks and believes dual operation should be minimised.

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?

The FTTH Council believes that at a certain point in the market's development, when for instance an area has 70 or 80% FTTH, higher copper prices might be used to induce switching of the residual customers in order to switch off the copper network

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?

The FTTH Council believes 'anchor based pricing' could be used to ensure that basic access products transition seamlessly onto the new networks.

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?

The FTTH Council believes migration will happen in any event. Cable networks are likely to drive competitive FTTH deployments while wireless solutions are complementary and need fibre to backhaul their data needs (in an urban setting this would be FTTB at least). The FTTH Council sees multiple networks as assisting rather than complicating migration issues.

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?

One of the major failings by almost all NRAs has been a complete lack of engagement on the need to develop access products in an all-IP context (as a FTTH network must be). For instance, CPS/CS are meaningless in such networks as are WLR and so on. While some NRAs such as Ofcom have taken a lead, much more work needs to be done to find NGA access products which can be successors to the current access suite. While direct equivalent are either not possible or not-economic even if possible, broadly equivalent and often

superior access products can be established. In the UK a voice specific bitstream channel was offered in lieu of CS or CPS and would allow an equivalent service set to be offered.

While all policy makers acknowledge that NGA access products must be in place, in practice no NRA has specified a set of standardised products. The result is that where such access products need to be provided for, there is often maintenance of the existing copper product set or in Greenfield situations, copper is deployed in parallel to fibre.

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?

The FTTH Council note that contract renewal may be a problem if retail prices need to be increased since it will not be possible to force the migration of consumers.

CPE will be a major cost for connecting customers where only a very basic product set (e.g. just voice service) is required. Customer connections will be expensive in this circumstance and operators will be reluctant to make such investments.

Co-ordination with owners for entry etc. will be difficult and will impact the pace and cost of migration.

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?

Not answered.

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?

The FTTH Council believes more research needs to be done but at this stage it believes that market circumstances (level of competition, network development and structure, cable penetration, level of take-up, pricing etc) will have a material impact on the impact of a change in copper on incentives to invest in fibre.

Therefore, one uniform answer is unlikely to be possible.

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?

If multiple FTTH access networks look viable and desirable then high access prices would be very appropriate. If multiple FTTH access networks do not look viable or are not desirable then a relatively low physical (or equivalent) access price looks desirable. If physical access (and equivalent) looks feasible then a relatively high bitstream access price would be appropriate.

How this pricing structure is achieved does not look important to the Council but the prices relative to each other is crucially important

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?

Not answered

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?

The FTTH Council believe that whatever the conclusion regarding the appropriate level of copper pricing, it is critical that lower copper prices should not find their way to the retail market. If the retail price point was to fall significantly, that would make FTTH investments much more difficult to recover.

In the event that that the conclusion is to drop wholesale copper prices, one potential way to stop those reduced prices being passed through to the retail level might be to use a delayed glide path.

If say copper prices were set to fall by 50%, it could be signalled that price reductions will be implemented from two years hence but that if certain key milestones in terms of fibre roll-out were met, then the implementation of the copper price reductions would be delayed. For instance if FTTH passed 30% of homes at the start of the glide path then a further two year delay could be implemented. If after 4 years 50% of homes were passed a further delay would ensue and so on.

Later in the process, at some predetermined point, for instance 70% penetration, price increases could be permitted to ensure 100% migration to the fibre network and shut down of the copper network. Such a model could also be considered on a sub-national level.

Yours sincerely,

FTTH Council Europe



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