

Orange Belgium's comments on the draft decision regarding the monthly charges for wholesale access to the networks of the cable operators.

1. EXECUTIVE SUMMARY

Orange Belgium welcomes the consultation on the monthly charges for wholesale access to the cable networks. Once finalized, these charges will provide a long-awaited for differentiation between wholesale charges for broadband-only services and wholesale services combining broadband and TV services, and they will be the key determinant for the degree of competition in the telecoms market in the years to come.

We remind that Orange Belgium, since the commercial launch of its convergent services in 2016, has incurred over € 329 m costs¹ related to cable network services. It has incurred substantial losses on the stand-alone fixed activity. The cumulated operating cash flow² over the abovementioned period was -€183 m. Even after the entry into force of the revised tariffs, the operating cash flow on the fixed activity in the first half of 2019 stayed negative at -€22 m.

In the meanwhile, Orange Belgium's bold challenger market positioning, characterised by being the first to launch unlimited mobile offers, to do away with out-of-bundle pricing, to not apply "yearly price indexations", to introduce pay for what is needed and to correlate prices with costs, is delivering strong benefits for the consumers in terms of choice, services (eg unlimited data) and lower retail tariffs. While Orange's initiatives on the mobile market were copied by its competitors, its ability to fully challenge the duopolistic incumbents on the fixed and convergent market is today still hampered by too high wholesale charges. For instance, at the current level of the wholesale charges, the economically sustainable launch of stand-alone fixed services is not possible. The charges that will be defined in the upcoming decisions will not only be key for the further development of the fixed services market, but also determine Orange Belgium's ability to continue to bring more dynamics to the mobile market.

Overall the changes made to the HFC cost models following the public consultation on these models early 2019 are contributing to wholesale charges that are better reflecting the costs of an efficient cable network operator. Orange Belgium welcomes the main methodological choices made and the principles of the pricing structures proposed (such as the regulatory asset base approach, the approach for the drop cable, the charging of TV by channel ...).

However, despite these positive evolutions, the wholesale charges proposed in the decisions continue to raise an important number of concerns. The main concerns identified are:

- the disproportionate impact that variations in peak-usage will have on the wholesale charges for broadband services;
- the clearly inflated nature of the cost model results for Nethys and Brut  l  . For Nethys, under reasonable assumptions, the new wholesale charges may even imply a wholesale price increase for internet and TV services as of the entry into force of the decision in 2020.

¹ Sum of CAPEX, direct and indirect costs associated with the fixed services over the period 2016-mid 2019.

² Operating cash flow = EBITDA minus CAPEX.

To address these concerns is essential to ensure that the wholesale charges resulting from the final decision will allow alternative operators to compete in a financially sustainable way over the next 4 years. Orange Belgium considers that these concerns, which result mainly from a number of sometimes questionable assumptions or cost-model related choices, can be addressed by a combination of various changes and amendments to the cost-models and the resulting prices, such as:

- a review of the unit costs, economies of scale and efficiency gains;
- a reassessment of the costs associated with increased peak data usage and a review of the best pricing approach to accommodate for the uncertainty of the future demand;
- the integration of demand and traffic assumptions that reflect an increasingly competitive and dynamic market, and the integration of the full range of services supported by the HFC networks in the future demand;
- a review of the pricing premium for high bandwidth services;
- the reconsideration of the life-time of a number of key assets;
- the integration of a predictable pricing approach beyond 2023;
- the substantial lowering of the IT-mark up;
- the fine-tuning of the tariff structure for digital TV and the charging approach for analog TV.

The upcoming wholesale charges decisions are the key for the possibility for alternative operators to ensure a dynamic telecommunications market, characterized by high quality services at attractive retail tariffs, and this – at least - for the next 4-5 years. The charges proposed today don't meet this requirement because they are simply too high (Brutélé, Nethys), and because the most likely future demand evolutions imply quickly and strongly increasing wholesale charges.

In its comments Orange Belgium provides a number of means to ensure that the trend towards a more competitive electronic communications services market, a trend initiated by Orange Belgium's initiatives on the market since 2016, can be continued while being made financially sustainable.

2. INTRODUCTION

Whilst the regulators have resolved a number of issues raised during the consultation on the HFC cost-model, we have identified a number of remaining concerns that continue to inflate the proposed wholesale prices, and a number of areas where the draft decision provides insufficient information to understand the approach and/or assess whether the approach taken is justified. The proposed structure and approach of some wholesale prices, specifically the bandwidth-driven charge, is also not appropriate.

In the core part of our comments we address a variety of topics regarding the draft decision and the updated anonymised cost-model, addressing as well elements supported as elements questioned by Orange Belgium. These comments relate to the following elements of the modelling approach and proposed pricing structure:

- RAB approach for re-usable assets
- Accounting for economies of scale
- Accounting for uncertainty around future demand (structure of the bandwidth-driven charge, and proposed mechanism for prices beyond 2023).
- Premium applied to high-bandwidth broadband services
- Subscriber demand and traffic
- List of services considered
- Modelled coverage
- Economic lifetime of assets
- Unit cost trends
- Mark-up applied for IT costs.
- Charges for digital and analog TV services

Our comments also provide ad hoc, additional considerations regarding the draft decisions of the charges on one hand and the cost model on the other. In a separate annex more background regarding the bandwidth usage and related assumptions is provided.

3. RAB APPROACH FOR RE-USABLE ASSETS³

The regulators have implemented the RAB-based approach in three main steps:

1. Identified the NBV of re-usable assets from the operators' fixed asset registers, based on the year in which the assets were deployed. Both co-axial cabling and associated civil infrastructure are considered re-usable.
2. NBVs are inflated to current prices using the CPI index in Belgium to estimate the Net Replacement Cost (NRC)
3. The NRC for the assets in each year are then assumed to be recovered over the remaining lifetime of the assets, assuming a 35-year lifetime.

The re-usable assets are then assumed to be replaced in future.

Orange welcomes the introduction of the RAB approach, and agrees with both the general methodology used and the assets that the approach has been applied to. However, insufficient information has been provided on the actual implementation of the approach, which does not allow Orange to fully assess the approach and in particular how the cost of re-usable assets differs between operators. These points are explained in more detail below.

A. Applying a RAB approach for co-axial cable and civil infrastructure is appropriate.

Orange agrees that applying a RAB approach for existing co-axial cabling and associated infrastructure is appropriate, and in-line with European Commission costing recommendations.

This is because both of these assets can be considered “re-usable” and almost fully depreciated. As acknowledged by the regulators, cable networks in Belgium, largely rolled out in the 1970s and 1980s, were initially deployed to deliver broadcast cable television. However, since then, HFC operators have chosen to re-use the civil infrastructure and co-axial cable closest to the customers premises to offer bi-directional services. Network upgrades have focused on upgrading the core network and replacing the original co-axial cable in the “higher” parts of the access network with fibre (between the Head End and Optical Nodes) to offer new two-way services such as cable broadband, and adapting (or deploying) more Optical Nodes, amplifiers and other access equipment to provide greater bandwidth and capacity. For example, Telenet's recent €500m investment in its HFC network involved the replacement of amplifiers, and the adaptation or replacement of other access network components such as splitters and TAPs.⁴ There is no evidence of major, systematic, recurring renewal investments in civil infrastructure or co-axial cable for the final connection to users since the initial deployment of the cable networks. This is supported by Telenet's capex in 2012, which showed the investment considered as ‘maintenance’ totalled €83.6 million or only €25 per home passed, which presumably included any replacement of co-axial cable and associated civils. As such, these assets can be considered largely depreciated. The same applies for Brutélé, which reports capex of

³ Chapter 7, page 36 of the draft BIPT decision, cost model manual chapter 8.4.

⁴ Telenet press release, 29th August 2014, “Telenet is investing in the expansion of a Giga network for everyone”

around € 25-34 m only, of which the main part is related to end user equipment⁵. See extract below.

Investissements

Les investissements de l'exercice 2018 se montent à leur valeur d'acquisition à 25.973 k€ en très net recul par rapport aux exercices précédents (33.019 k€ en 2017).

Ceci est lié, en grande partie, au cycle d'achats de nouveaux décodeurs, les acquisitions des derniers modèles en date s'étant concentrées sur les années 2015, 2016 et 2017.

In this context, a regulatory asset base (RAB) approach, in which the remaining non-depreciated value of these assets is considered, is appropriate.

- It provides the appropriate returns to investors, rather than providing for a 'windfall' holding gain, by existing fully depreciated assets being revalued at full replacement cost; and
- It can be readily applied within the model by substituting the capital charges based on the BU-LRIC approach with values based on a RAB for the relevant assets.

Such an approach is also consistent with the application of the Recommendation (2013/466/EU), which requires the exclusion of reusable civil works:

(35) In the recommended costing methodology the Regulatory Asset Base (RAB) corresponding to the reusable legacy civil engineering assets is valued at current costs, taking account of the assets' elapsed economic life and thus of the costs already recovered by the regulated SMP operator. This approach sends efficient market entry signals for build or buy decisions and avoids the risk of a cost over-recovery for reusable legacy civil infrastructure. An over-recovery of costs would not be justified to ensure efficient entry and preserve the incentives to invest because the build option is not economically feasible for this asset category." [Emphasis added].

Whilst the recommendation relates to civil engineering assets, this does not preclude such an approach being applied to other reusable assets. On the contrary, the principle of technological neutrality (and non-discrimination) for the regulation of communications networks should apply, which implies that the relevant parts of the Recommendation must also apply to all parts of HFC networks. It is clear from the evidence provided above that Recital 34 of the Recommendation is applicable to the coaxial network as it is indeed very unlikely to be replicated, and for this reason should be subject to the same costing methodology as civil works. The re-use possibility is explicitly confirmed by the annual reports of certain infrastructure providers (cf our comments on the cost-model), and for instance also by Telenet in its communication⁶ and as can be derived from its financial results and financial expectations moving forward. These expectations don't include any material replacement of the coaxial network in the foreseeable future.

⁵ See Brutélé annual reports of 2018; 2017, ...

⁶ See <https://press.telenet.be/need-for-speed-flanders-is-and-always-will-be-a-pioneer>

Need for speed? Coax and fibre do it together

It is not true that superfast internet is only possible if all cables are replaced by superfast fibre. Just as well, otherwise we would have to break up all the pavements. Although the present network has for the most part evolved towards fibre, there is no need to replace the coax connection between the street cabinet and the home by a fibre optic cable as well. According to recent research, the combination of that coax cable with the fibre network offers plenty of capacity to keep conveying the growing volumes of data traffic. Of course fibre may be laid in new housing developments, but even in the long run the customer at home will not notice the difference between coax or full fibre broadband internet.

Considering the net book value of co-axial cable as well as civil works as the basis of costs in the HFC costing model is therefore consistent with the recommendation. This approach is also consistent with the current costing approaches implemented by other National Regulatory Authorities (NRA) in Europe, where a number of NRAs have considered both civil infrastructure and legacy cabling as reusable infrastructure.⁷

B. The general methodology used to implement the RAB approach is appropriate

Orange Belgium also agrees with the over-arching methodology used to implement the RAB approach.

In particular, the methodology used to calculate the remaining value of re-usable assets is consistent with European Commission's recommendations, notably those within the 2013 Recommendation on Non-Discrimination Obligations and Consistent Costing Methods. This notes that for re-usable assets, NRAs should "set the RAB at the regulatory book value, net of accumulated depreciation at the time of calculation, and indexed using an appropriate price index such as the price index", which is consistent with the approach taken by the regulators.

Recovering the remaining value of the assets over the remaining life-time of the assets, as implemented by the regulators, also appears to be a sensible and pragmatic approach.

4. UNIT COSTS / ECONOMIES OF SCALE ⁸

The cost model should accurately reflect that the efficient costs of service provision include any economies of scale associated with HFC networks.

Economies of scale are limited in HFC access networks, as the cost per line of the main access network assets (access cabling, TAPs, Amplifiers, and Optical Nodes) is mainly driven by the density of premises in the network footprint, rather than the actual number of premises.

There is more scope for economies of scale in core networks, given a high proportion of core network costs are fixed in the short term. This means that the short run incremental

⁷ In its NGA costing methodologies, four NRAs have considered legacy copper cabling as reusable infrastructure. See BEREC report, "Regulatory Accounting in Practice 2018", BoR (18) 215, Figure 28. https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8310-berec-report-regulatory-accounting-in-practice-2018

⁸ Section 6 of the draft decision, and cost-model manual.

cost of providing additional capacity is relatively small compared to the average cost.⁹ However in practice, the cost disadvantage for smaller scale operators above a minimum size is not expected to be significant, as an efficient smaller operator could reduce the overall level of fixed costs in the long run. This could be through dimensioning its core network in a different way, for example using lower capacity equipment than larger networks and/or sharing part or all of its core network with other operators access networks to get the benefits of higher scale. The core network dimensioning in the model may not be sufficiently flexible to determine the costs for smaller operators;

In this context, Orange believe that the cost model does not accurately reflect economies of scale:

- Higher unit opex costs applied for Brutele are not justified.
- The model does not reflect the actual core network sharing that exists in Belgium

This is explained in more detail below.

A. Applying larger unit opex costs for Brutele is not appropriate

The regulators have applied an increase in unit operating costs for Brutélé to reflect the smaller size of this operator, based on a comparison of the operational expenses of the three cable operators.¹⁰

The regulators have not provided sufficient information to justify the application of higher costs, nor outlined how the higher costs have been applied within the model.

Despite this, Orange believe that basing assumptions on economies of scale on an comparison of the costs of only three operators is not sufficiently robust, and that applying an increase to the unit costs for Brutele is not justified.

The regulators' objective is to model the forward-looking costs of an efficient operator in each cable operator's footprint. This means any differences in prices between operators should reflect differences in **efficiently**-incurred costs. However, a comparison of actual costs of Brutele to the actual costs of only two other operators is not sufficient to conclude that Brutele would face higher unit costs, all else being equal. Differences in costs may be the result of differences in efficiency rather than the result of exogenous factors such as scale, geography or economic factors..

In order to determine that costs differences reflect true differences in efficient costs additional analysis, including a large sample such as similar operators in other jurisdictions, controlling for factors would be needed before this conclusion could be supported. For, example a NERA report on the comparative efficiency of BT commissioned by Ofcom relied on a sample of 30 comparable operators.¹¹

A priori, there is no reason to believe an efficient operator in the Brutele footprint would incur significantly higher unit costs than equally efficient operators in the footprints of Nethys or Telenet:

⁹ In practice there will be "headroom" in the capacity equipment in the network, meaning that additional equipment will not be needed to cope with higher-than-expected usage in most of the network.

¹⁰ Section 8.1, Annex 2 of the Draft Decision.

¹¹ https://www.ofcom.org.uk/__data/assets/pdf_file/0025/68272/network_eff_report.pdf

- The Brutele network still covers a large number of premises (over 300,000 households), so would expect to have sufficient scale to avoid any significant cost disadvantages from a lack of scale.¹²
- As noted above, if there are any significant cost disadvantages caused by a lack of scale, in the long run an efficient operator would change its operations to avoid these disadvantages. For example, an operator could outsource its maintenance operations to a third party (so that maintenance costs are incurred on the basis of the number of faults/incidences), or share part of its network operations with other operators.
- This is supported by the actual behaviour of the cable operators in Belgium - in relation to the core network, where economies of scale could be most significant, Brutele and Nethys now operate a converged core network.

Given this, applying a larger unit cost to Brutele because of its smaller network size does not appear justified. The regulators must explain the nature of the additional costs that Brutele would incur relative to Telenet/Nethys, and provide further evidence that these costs are due to exogenous factors cannot be avoided by changes in operations by Brutele.

The regulators also provide no information on how any cost differences are applied, for example the list of assets for which an increase in unit opex costs has been applied or how data on the operators' expenses has been used to determine the specific cost "mark-ups", nor provided any information on the size of these mark-ups. Given these mark-ups are likely to be a significant driver of differences in the proposed wholesale prices between operators, the regulators must provide more information to allow Orange and others to assess whether these are justified.

B. The cost model does not account for actual core network sharing between operators

The cost model appears to dimension the core networks of each operator independently, on a "stand alone" basis.

VOO have developed a single core network serving both the Brutele and Nethys cable networks¹³. This single network means that Brutele and Nethys have a single interconnection for broadband, and can offer Digital TV services using the same DTV infrastructure. This will result in significant cost reductions for Brutele and Nethys, which are not reflected in the cost model.

The regulators should therefore update the cost model to reflect all potential network sharing between operators, and at a minimum, reflect the network sharing that is currently in place in Belgium. In the absence of this change, the proposed wholesale prices will be higher than actual incurred costs.

It should be noted that this has been explicitly acknowledged by the CRC in its earlier decisions¹⁴:

¹² For example, whilst some operating costs (such as the cost of maintenance teams and associated equipment) are "lumpy", you would expect such costs on a per household basis to be similar to that of Nethys and Telenet.

¹³ <https://www.zte.com.cn/global/about/news/2-28-1>

¹⁴ §26 and following of "Décision de la Conférence des Régulateurs du secteur des Communications Electroniques (CRC) du 11 décembre 2013 concernant les tarifs de gros pour les services d'accès aux réseaux câbles sur le territoire de la région bilingue de Bruxelles Capitale"

“Brutelé et l’Association liégeoise d’électricité (ALE, aujourd’hui Tecteo) ont créé un Groupement d’Intérêt Economique (GIE) auquel elles ont confié différentes fonctions. L’article 2 des statuts de ce GIE 17 prévoit que leur collaboration porte sur le développement et la commercialisation des produits et services constituant le Triple Play. Sont notamment visés : l’établissement d’une offre commune de services, le décodeur, la mise en commun des moyens publicitaires autour d’une marque commerciale unique, l’harmonisation des systèmes de facturation et l’harmonisation des infrastructures informatiques internes.

Il existe donc manifestement de fortes synergies et interdépendances entre Tecteo et Brutelé.”

5. ACCOUNTING FOR UNCERTAINTY IN DATA USAGE GROWTH¹⁵

There is significant uncertainty around the growth in data usage going forwards. As noted in Orange’s response to the demand assumptions below, expected developments in broadband applications such as migration to “over-the-top” IPTV services, cloud-based video recording and an increase in cloud based business services are expected to drive significant increases in data usage for both residential and business customers in the coming years. In Belgium, this migration could be facilitated by a move to ‘unlimited’ broadband services. Innovative and unforeseen services requiring high bandwidth / capacity may also be developed. This growth could also be significantly larger than forecasted in the Axon cost model, with the historical data growth of the cable operators, and future forecasts by the operators and industry experts, suggesting growth rates of up to 40% per year would not be unrealistic, compared to the 30% assumed in the model. Conversely there is also the possibility of lower growth rates in the future.

Given this uncertainty, it is critical that the structure of wholesale prices reflects the efficient costs of providing network capacity, particularly given that the incremental cost of providing additional capacity is low. If actual demand is significantly higher or lower than the forecast demand the impact on the total costs of the cable operators will be relatively low.

The current proposals do not account for the uncertainty around data usage growth and the relatively low incremental cost of demand. The regulators have proposed a “linear” structure for the new broadband-driven broadband charge based on ‘average’ costs of providing capacity based on forecast usage, rather than the fixed and incremental costs providing network capacity. This will result in a significant over or under recovery of costs if peak data usage grows differently than that forecast in the Axon cost model. This uncertainty will have implications for both the access seekers, who may face higher costs per subscriber if demand grows faster than forecast, and the cable operators themselves who may under-recover costs if demand does not grow as fast as forecast. This uncertainty will negatively impact both competitiveness in the retail market and investment incentives.

This is compounded by the relatively short length of the proposed price control. The regulators have made no proposal for the evolution of regulated prices beyond the price control period (2023), nor set out any mechanism for adjusting wholesale prices if out-turn demand is substantially different from its forecasts. In the event that a new price control is not implemented by 2023 based on a cost model with updated demand forecasts, cable operators could either continue to exploit any differences between the

¹⁵ Inter alia cost model - modelinputs – cost-model description – page 15

wholesale prices at the end of 2023 and the underlying service unit costs or to set prices freely above the level of costs.

In order to take account of these issues the regulators should make changes to the pricing proposals:

- The structure of the bandwidth-driven charge should reflect incremental capacity costs, rather than including recovery of fixed costs. Orange propose a two-part pricing structure, including a flat charge per customer reflecting average peak usage and smaller per Mbps charge for excess usage, consistent with the structure of usage charges considered in other jurisdictions.
- A mechanism for the evolution of prices should be implemented, which includes a sensible, evidenced-based mechanism for adjusting prices in the event of higher or lower-than-expected demand growth which could be used for revisions of the price control up to 2023 or for setting prices when the current price control comes to an end in 2023.

More details on the above are provided below.

A. The proposed pricing structure for the bandwidth-driven broadband change does not reflect the regulators' pricing principles, and could lead to significant over or under-recovery of costs

In determining the appropriate pricing structure, the regulators have considered a number of objectives, including:¹⁶

- Allowing cable operators to recover the efficient cost of providing services with certainty;
- Correctly reflecting the causality of costs and scale effects generated in electronic communications networks; and
- Allowing alternative operators to benefit from maximum flexibility in their commercial policy while protecting the cable operators from unforeseen changes in demand;

Despite this, the proposed bandwidth-driven broadband charge is structured as a per Mbps charge recovering both incremental costs and a contribution to the fixed costs of the cost network, meaning the usage charge paid by alternative operators increases linearly with the peak hour usage of their customers. This "linear" per Mbps charge is not consistent with the regulators' objectives.

First, the pricing structure does not reflect the economies of scale associated with the providing core network capacity, and would lead to a significant over or under-recovery of efficient costs if average peak hour usage grows differently to that assumed by the regulators.

In practice, an efficient network operator will dimension its network in advance to cater for the expected growth in peak hour usage. If actual usage is lower than forecast, an operator would only be able to make limited cost savings, given the majority of costs associated with providing network capacity are fixed and sunk.¹⁷ However, if peak usage grows faster than expected, the incremental cost of providing additional capacity will be

¹⁶ See section 10 of the BIPT Draft Decision.

¹⁷ Capacity is mainly provided by transmission cabling and switches in the core network. If required capacity is lower than expected, it would not be cost efficient to replace these assets with lower-capacity cabling / switches.

relatively small compared to the average cost, as a high proportion of costs are fixed (i.e. there are economies of scale).¹⁸

This asymmetry is illustrated by the blue line in the diagram below.

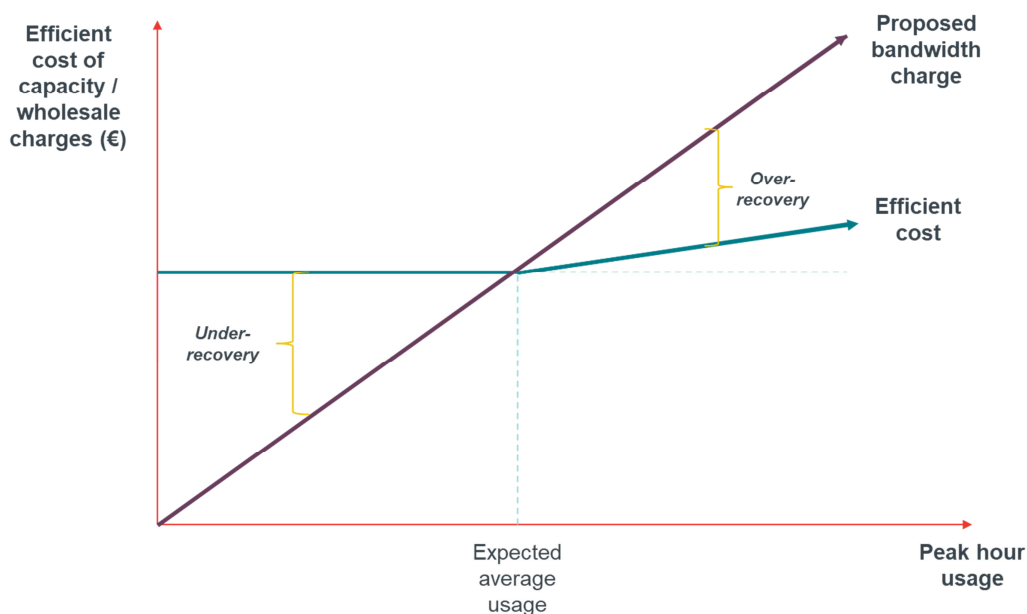


Figure 1 Profile of efficiently-incurred capacity-related costs versus proposed “linear” bandwidth charge (illustrative only).

However, the proposed “linear” pricing structure does not reflect this profile, as shown by the purple line in the diagram:

- If peak usage growth is lower than expected, network operators will under-recover the cost of providing network capacity as the recovered cost will be below the efficiently incurred costs;
- Conversely, higher-than-expected growth would result in a substantial over-recovery of costs, as the additional revenues paid by alternative operators would be significantly above the incremental cost of the providing the additional required capacity.

The risk of cost over-recovery is particularly acute, given that the regulators’ forecast of peak usage is conservative – as noted above, the cost model assumes annual peak usage growth of 30% up to 2023¹⁹, despite the historical data growth of the cable operators and evidence on the future demand for data suggesting growth of up to 40%.

Second, the linear pricing structure would constrain the commercial policy of access based operators, as it increases the risk associated with providing ‘unlimited’ broadband packages. Because retailers would incur substantially higher charges in the event of larger-than-expected usage, retailers would be incentivised to cap usage on their packages, or implement ‘traffic shaping’ to limit the risk of excessive wholesale costs.

¹⁸ In practice there will be “headroom” in the capacity equipment in the network, meaning that additional equipment will not be needed to cope with higher-than-expected usage in most of the network.

¹⁹ 30% usage growth assumption reflects the assumed 15% per year growth per customer for each bandwidth product and the assumed migration to higher-bandwidth (higher-usage) packages over time.

Usage caps or traffic shaping are not favourable for end consumers, as the regulators themselves recognise in the Draft Decisions.²⁰

Taking together the above, the proposed pricing structure is inconsistent with the regulators' own pricing principles and is not favourable for cable operators, alternative operators, or end-users.

B. An alternative two-part tariff structure would reflect efficient capacity costs and lead to better outcomes for end-users

Given the above, Orange proposes an alternate pricing structure, based on a two-part tariff, which would comprise of:

- A flat per subscriber usage charge, reflecting the expected average peak hour usage over time; and
- A per Mbps usage charge for any peak hour usage above the expected average level, which reflects the incremental costs of providing the additional required capacity.

This structure would better meet the regulators' objectives. In particular:

- The usage charges' would reflect the underlying costs of providing capacity (i.e. the blue line in Figure 1 above) - the flat per subscriber charge would ensure the cable operators recover the cost of dimensioning the network for expected peak hour usage growth, whilst the small per Mbps charge would then mean that charges for higher-than-expected usage reflect the cost of providing the additional required capacity.
- It would also better incentivise retailers to expand demand usage, as retailers would incur much smaller charges in the event of higher-than expected usage.

Taken together, this alternative structure results in the efficient recovery of costs, and incentivises a retail pricing structure that is much more favourable for end-consumers and reduces demand risk for all players in the market..

This structure would also be consistent with usage charges implemented in other jurisdictions. For example, the bitstream prices set by BNetzA in Germany include a monthly fee reflecting access and average peak traffic usage, with a small additional per Mbps fee for extra traffic.²¹ In Ireland, the CGA bitstream usage charge imposed by ComReg is structured as a per customer charge that varies with peak hour usage, but which increases at a decreasing rate as peak hour usage increases. This reflected that:

“there is not a linear relationship between the levels of throughput and levels of costs experienced by Eircom. ... This ensures that as higher throughput is experienced by OAOs there is less fluctuation of wholesale prices, which ensures greater stability of prices and certainty for OAOs.”²²

²⁰ See section 12.1 of the BIPT Draft Decision.

²¹ Prices for the new L2-BSA wholesale central access product

²² ComReg, “Wholesale Broadband Access: Price control obligation in relation to current generation Bitstream”, para. 6.109. <https://www.comreg.ie/media/2018/01/ComReg1390.pdf>

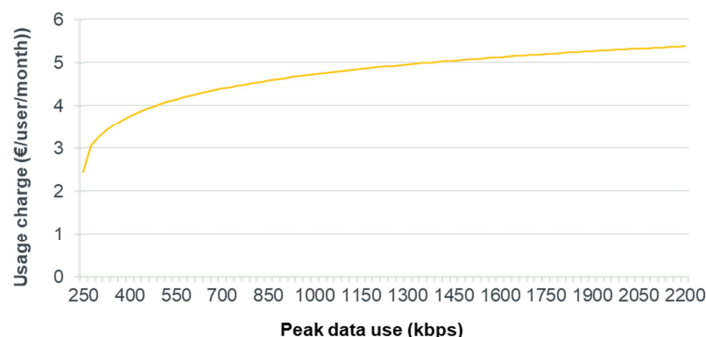


Figure 2 eir CGA bitstream usage charge [Source: eir Bitstream price list]

C. The regulators must outline a mechanism for updating prices, including beyond 2023

As noted above, there is a clear possibility that demand will grow at a different rate to that assumed in the Axon cost model. There is therefore a large probability that the proposed wholesale prices for 2023 will not reflect the underlying costs given the actual level of demand.

It is also unclear whether a subsequent pricing decision will be in place before the end of 2023, which would set new prices based on the actual evolution of demand over 2019-2023. For example, a new market analysis would be needed before the next wholesale pricing decision can be made, but given the proposals in the new Electronic Communications code (which highlights market analysis need only take place every five years), it is likely that such analysis will not be completed until 2023 at the earliest.

Given the above, the regulators must propose a process in the current decision for the evolution of prices beyond 2023, both to ensure prices reflect the actual evolution of demand, and to provide protection against potential unjustified price increases in the future.

Orange hope that the regulators strongly consider its proposals.

6. PREMIUM APPLIED TO HIGH BANDWIDTH BROADBAND SERVICES

The regulators have applied an additional “premium” to LRIC+ costs relating to cable access and broadband access services, starting at 5% for high-speed services, and rising to 10% for the services with the “top” speeds (see table below).

This premium has been applied to reflect the risk associated with the investments in high speed broadband services, specifically the risk that demand forecasts for high-speed services in the cost model may differ from reality. The regulators argue that this additional premium will incentivise the cable operators to invest in high-speed broadband (HSBB) services.²³

²³ See Section 15.3 of the BIPT Draft Decision.

Premium	2019-2021	2022 onwards
No premium (allowable return = WACC @7.12%)	<= 200Mbps	<= 400Mbps
Premium = 5%	> 200Mbps <= 600Mbps	> 400Mbps <= 900Mbps
Premium = 10%	> 600Mbps	> 900Mbps

Figure 3 Proposed premium for high-bandwidth services – Section 15.3 BIPT Draft Decision

Orange does not agree with the application of this premium, for the following reasons:

- The regulators have not explained how it has derived the 5% and 10% premiums that it has applied or the services to which these premiums are applied.
- The application of any additional premium is not justified, given the cable WACC considered in the model already includes a premium to reflect the characteristics and risks associated with high-speed broadband services. More importantly, there is no evidence that an additional premium is needed to incentivise cable operators to invest in high-speed broadband services, given the nature of the investments needed, which clearly differ from investments required for FTTH, and the specific structure of the broadband market in Belgium.

As outlined by the regulator, the cable WACC considered in the Axon model takes account of the key risks associated with investments in NGA networks, notably a persistently high level of investment, potential gains that are distant over time, and a greater sensitivity to the volume of demand.²⁴

To justify the application of an additional premium the size of the premium, the regulators refer to similar premiums applied for FTTH services in other jurisdictions, such as the additional 3.5% premium applied to the WACC by the ACM in the Netherlands to FTTH investments. However, the regulators provide no explanation for why the application of an additional premium in other markets, and for a different network, justifies an additional premium on HFC networks in Belgium. It also doesn't explain how the specific size of the premiums applied in those markets translate to a 5-10% uplift on LRIC+ costs in Belgium (in particular, the premium applied by the ACM is not directly comparable to that applied by the regulators, as this is applied increase in the required return used to determined capacity charges, rather than a percentage mark-up on total LRIC+ costs).

In practice, the decision to apply an additional premium for HSBB services should be based on the characteristics of HFC networks, and the specific structure of the Belgium broadband market. An additional premium should only be applied if, in the light of these factors, an additional premium beyond that already included in the cable WACC is required to incentivise efficient investments in high-speed broadband services.

However as we explain below, when taking into account the investments required to provide HSBB services and the specifics of the Belgian broadband market, it is clear that an additional premium is not required to incentivise the cable operators to invest in HSBB.

On the one hand, an additional premium may be required to incentivise investments in FTTH services, because the provision of FTTH requires the deployment on a new access

²⁴ See Section 15.2 of the BIPT Draft Decision.

network with significant costs²⁵. This creates significantly demand risk, as costs have to be incurred up front while cost recover requires customers to actively migrate from another network to take up the FTTH service.²⁶ To manage this risk, investors have the choice to either not deploy the FTTH network, or to delay the deployment until more information on the likely evolution of HSBB demand is available. In this context, an additional premium may be required to incentivise operators to invest in FTTH services now, rather than delaying the investment or not making the investment at all.

In contrast, an additional premium is unlikely to be needed to incentivise investment in HSBB services over HFC networks for a number of reasons:

- The demand uncertainty around HSBB is much lower, as the migration of customers to HSBB services can be done automatically without the need for the end-user to migrate to a new access network;
- The investments required to upgrade the HFC network are small compared to developing the a new FTTH access network. This is shown by Telenet's high-speed broadband investments, which indicates investments of around €150 per home passed were needed to make the Telenet network Gigabit-capable.²⁷ This is much lower than the cost of FTTH deployment, where evidence suggests costs of up to €1,000 per home passed. For example, deployment costs for Virgin Media's FTTH "Lightning" program in the UK were around €1000/home passed as of December 2018²⁸, and OpenReach's FTTH roll-out costs, which are expected to be lower given it's a brown-field roll-out using existing ducts, is still expected to be in the range of €350-400 per home passed.²⁹
- Given the high level of sunk costs in the existing HFC network, cable operator have a strong incentive to continue innovating to retain existing customers and hence prevent stranded assets.

Expected future developments in the broadband market in Belgium mean that the cable operators will have greater incentives to invest in HSBB to maintain the competitiveness / penetration on their HFC networks. As highlighted in Orange's response on the BIPT's demand assumptions below, Proximus plans to roll-out FTTH across large parts of Belgium, meaning cable operators will be competing with a parallel network that is capable of offering HSBB services. As such, investments in HSBB are required to

²⁵ We note that the risks associated with VDSL back in 2010 referred to in the draft decision cannot be compared with the risks of investments in high speed networks in 2019, especially when taken the all in all moderate nature of the required investments into account. Reference is often made to "De grote netwerk" project of Telenet, which implied around 500 Mio € investment over 5 years. The mobile operators permanently continue to invest in new generation technologies, while being uncertain regarding take-up – remember the 3G failure – or about the possibility to apply higher retail charges for new generation services (in practice, this is rarely the case). Nevertheless, the WACC for regulated mobile services (including for investments in new technologies) is hardly higher than the WACC for the cable networks.

²⁶ This is creates a barrier to take-up, as the new connection often requires the installation of new equipment at the premium and therefore requires the customer to be present when the installation is made.

²⁷ As noted above, Telenet's statements indicate they have spent approximately 500m EUR to make its network Gigabit-capable, covering approximately 3.3m premises.

²⁸ Liberty Global investor call presentation Q4 2018. <https://www.libertyglobal.com/wp-content/uploads/2019/02/Liberty-Global-plc-Q4-2018-Investor-Call-Presentation.pdf>

²⁹ "Openreach continues to deliver FTTP at the lower end of its £300 - £400 per premises passed cost range and believes that it can pass around 50% of UK premises within this range of costs." <https://www.btplc.com/Sharesandperformance/Financialreportingandnews/Quarterlyresults/2018-2019/Q4/downloads/NewsRelease/q419-release.pdf>

compete with Proximus' FTTH services, and therefore just reflect the on-going investments needed to compete in the broadband market. In this context, not investing in high-speed broadband is not a viable option strategy, as this would put the cable operators at a competitive disadvantage versus Proximus – this would lead to material losses in customers in the medium term, and means the operators would not be able to recover the cost of their existing investment in the HFC networks. Given this, cable operators should not receive additional compensation for investments they are already incentivised to make through the competitive dynamics of the market.

Not applying an additional premium is also supported by the approach taken by regulators in relation to FTTC services, where in general no additional premium has been applied above the underlying WACC for NGA services. HSBB investments for HFC networks are broadly similar in nature and magnitude to investments in twisted pair copper networks for the provision of FTTC, so we would expect the regulatory treatment of HFC services to be the same on the basis of technology neutrality.

Finally, there is also no evidence from the actual investment activities of the cable operators that suggests they would not invest in HSBB services without the provision of an additional premium. In fact, as noted above, Telenet have already implemented an investment program to offer broadband speeds of up to 1Gbps across its whole network footprint and other cable operators across Europe are making similar investments.

Taken together, the evidence above should that the application of an additional premium is not needed to incentivise the cable operators to invest in HSBB services, and as such, the regulators should remove the proposed premiums for the proposed wholesale prices. The premiums would only act to over-compensate the cable operators for investments that they are already incentivised to make.

Finally, we also refer to the comments of the EC regarding the draft market analysis decision of June 2018, where the EC clarified that, in the context of a “reasonable margin”, such margin was provided for by the WACC already, so no additional premiums are required for the definition of fair tariffs.

7. SUBSCRIBER DEMAND AND TRAFFIC

A. The regulators have provided insufficient information to assess the forecast subscriber demand

The regulators state that the estimated subscriber demand reflects the efficient level of demand for each service, and that the estimated service adoption rates are based on the “historical data of all cable operators”.³⁰ The regulators also highlight that the level of demand has been adjusted to reflect competition from FTTH and xDSL networks.

Orange Belgium agrees the modelled demand should reflect the efficient level of demand, and that demand must take account of competition from parallel networks. However, insufficient information has been provided to fully understand the approach and assess whether it is justified, as outlined below.

First, it is unclear whether the modelled demand reflects the “efficient” level of demand.

³⁰ See paragraph 97-98 of the BIPT Draft Decision.

In theory, the efficient level of demand should reflect both the preferences and characteristics of consumers (such as their age and income profile), and an “efficient retail service offer” (an offer provided by an efficient operator operating in a competitive market). Such a service offer would reflect the service quality achieved on an efficiently-run network, and a retail pricing structure that does not distort customer demand, for example by artificially inflating prices or reducing demand.

Whilst using the historical demand of the cable operators is likely to reflect the characteristics of consumers in Belgium, it will also be distorted by historical differences in network quality, the cable operators market power and the lack of effective access regulation in the past.

In estimating efficient demand, historical data must therefore be adjusted to reflect these factors. Without such an adjustment, the modelled demand will underestimate the efficient level of demand, and in turn overestimate the appropriate level of service unit costs.

We would not expect competition from FTTH to significantly impact demand on the cable networks in the foreseeable future.

Proximus’ planned FTTH roll-out to residential premises is slow, meaning migration of customers from cable to the FTTH network is expected to be minimal over the price control period. As shown in Proximus’ FTTH roll-out plan in December 2016, initial roll-out has been focussed on the business segment, with relatively small coverage of residential properties planned before 2023 (residential coverage expected to reach only 7% by the end of 2019, and 18% by the end of 2021):

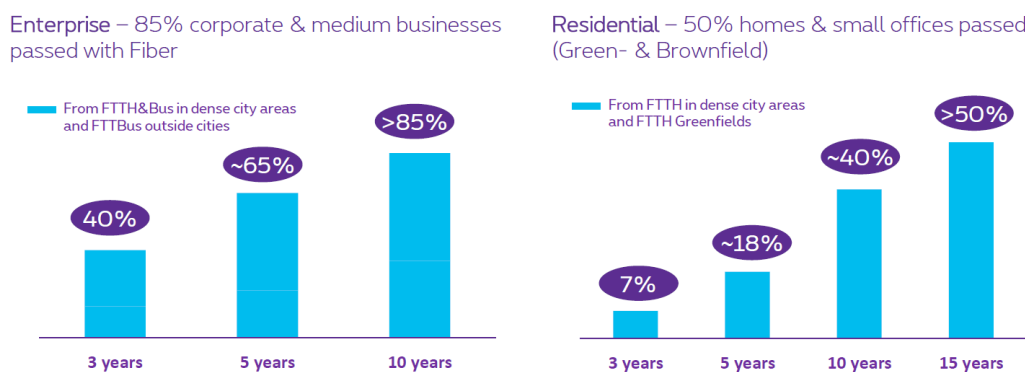


Figure 4 Extract from Proximus Analyst & Investor presentation, December 16th 2016.

This is supported by the recent communication on the electronic communications and TV market situation of 2018 of the BIPTE, which highlights that take-up of FTTH services to date has been low (32k FTTH/FTTB lines combined as of December 2018, equating to less than 1% of total broadband lines and implying only 19k additional lines over the last 2 years (2017-2018) and this for B2C and B2B lines combined):

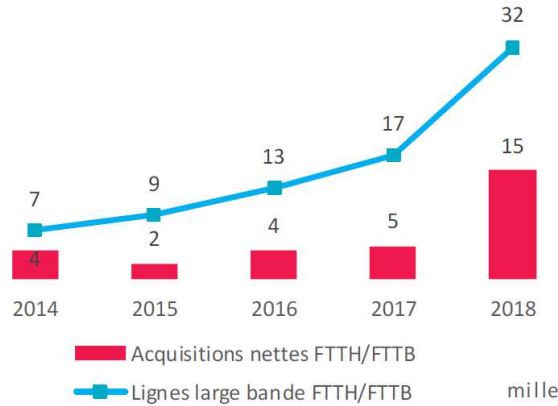


Figure 16 : Volume de lignes FTTH/FTTB et ajouts nets sur une base annuelle (source : IBPT)

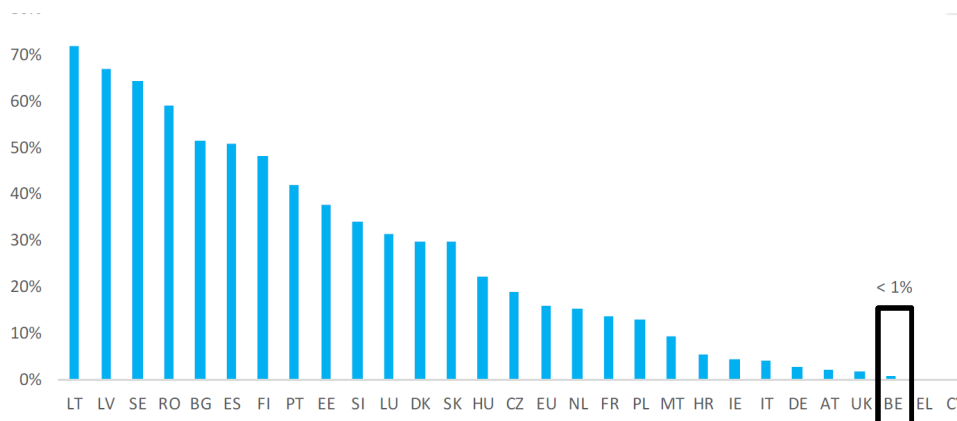


Figure 17 : Part en pourcentage des lignes FTTH/FTTB dans le volume total, juillet 2018 (source : CE)

Figure 5 BIPT report, Economic situation of the telecoms sector 2018.

Taking the evolution over the last two years (since 2017) into account, there are no reasons to assume that the cable network will lose material network market share in the foreseeable future. Based on the BIPT abovementioned report, the cable networks added net 155.000 customers over 2017 and 2018, while the DSL networks added only 60.000 customers in the same period. Even when taking the additional FTTC/FTTB customers (~20,000) into account, this implies that the growth on the cable networks was about the double of that on the copper/fibre networks combined. Also, as it is now possible to offer broadband services without fixed TV services in the bundle, this may drive further cable network market share increases in the coming years.

In addition, other FTTH deployments (such as the deployment by Fluvius in which Orange participates) will not obtain sufficient scale in the course of the current market analysis period to have a material impact on the network market shares. It may be questioned if it is appropriate to consider cable network market share losses in regions covered by such deployments, as these regions will become deregulated once there is sufficient alternative operator driven FTTH coverage.

In any case, taken together, we would expect the “net” impact of FTTH on cable demand to be small over the price control period. List of services considered in the cost model.

The HFC model only takes into account mass market products (TV, telephony and broadband) in both estimation of costs and calculation of prices. However, the cable operators deliver a range of other services on common infrastructure. By not taking account of these non-mass market products when calculating the recovery of fixed and common costs, the model does not reflect economies of scope on HFC networks. As the non-mass market products will make a contribution to the recovery of fixed costs, this results in an overestimation of unit costs for residential services, and in turn the proposed wholesale prices.

As with the traditional PSTN networks there are clear economies of scope in the provision a range of services over HFC network, with common infrastructure and equipment used to provide both high-volume mass-market products (‘broadband’) used by residential and SME customers and high quality products (‘leased lines’) used for corporate users and mobile backhaul. While the model includes an allowance for usage of these “non mass-market” services in the core network, it does not include these services in costing of the ‘access’ network.

The synergies between provision of mass market services and provision of B2B and mobile backhaul is clear from the presentations of the cable operators. While the co-axial network was initially built to deliver television services to residential customers, cable operators’ plans include increasing their penetration in B2B services, and in Telenet’s case using the fiber part of the HFC network also for mobile backhaul (as seen below). This will include fibre within the access network, as well as usage of the core network.³¹

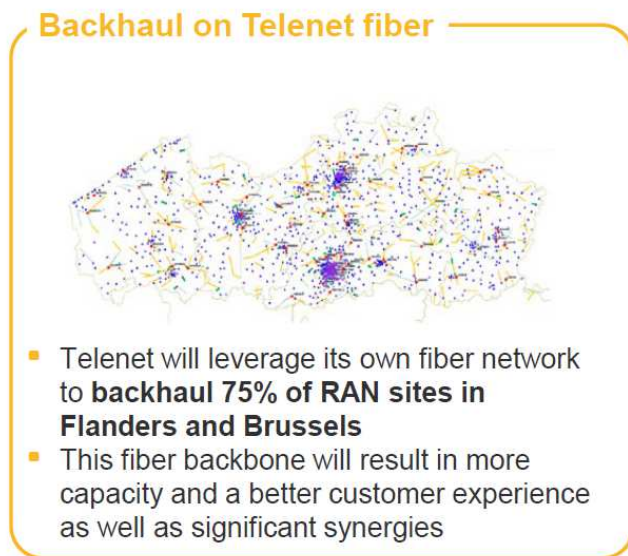


Figure 6: Source Telenet 2016 Capital Markets Day presentation

The HFC model also takes no consideration, either in the access or core network, of demand for a number of other non-mass market services provided over HFC networks, such as public WiFi networks, video surveillance applications, and tele-signalling. For

³¹ Another illustration is the Telenet Nexus project, see <https://www2.telenet.be/nl/corporate/ons-bedrijf/onze-ambitie/superieure-geconvergeerde-connectiviteit/>

example, the various members of Infrac (such as Inter-Media and PBE) offer a number of these services, including Infra-LAN-net, Infra-TEL-net, Infra-INTER-net, Public Wifi³², and camera-surveillance, and have specifically reserved bandwidth for the provision of these services on certain HFC networks.³³ As operators reserve bandwidth exclusively for these services on the HFC network, it is by extension not used for the provision of mass market services³⁴ and a proportion of the costs of the co-axial cable as well as the fibre and core networks should be recovered from these services. By not considering these services, the HFC model allocates all of the costs to mass market services, and in turn over-estimating the true costs of these services.

The inclusion of demand from non-mass market services on the common access network is required to appropriately estimate the unit costs of delivering mass market services. This is because the cost of the “common” assets used by all services should be recovered across both the mass market and non-mass market services. As such, the omission of non-mass market services from the model results in all common costs allocated to residential services, inflating the unit service costs and in turn the proposed wholesale prices, compared to a more appropriate allocation where a proportion of common costs will be recovered from these other services.

8. MODELLED COVERAGE AREA³⁵

The specific coverage area that has been considered in the HFC model is not clear. More specifically, it is unclear whether the model considers only geographic sectors currently covered by the cable operators, or also an extension of coverage to current “white or grey zones”.

The regulators should clarify this.

For the purposes of the cost model, it would be appropriate to exclude the zones not currently covered by cable networks from the modelled coverage. This is because alternative operators are not expected to have access to networks within these areas, and therefore should not be expected to contribute to any costs associated with these areas. As per section 3.16 of the BIPT's market analysis decision, the regulators foresee no obligation to offer access to networks in white zones where no or only 1 NGA network is present. As such, excluding these areas will ensure that the unit service costs, and therefore wholesale prices, relate only to the areas where alternative operators are granted network access.

If the “white zones” were to be included this would likely overestimate the unit service costs for alternative operator's access. This is because the current non covered zones are likely to be more rural than the cable operators' existing coverage areas, meaning that the cost of extending the network to these areas is likely to increase rather than decrease the average cost per subscriber.

Even if over time regulated access would apply to such zones in the future, this would be defined by a new market analysis decision in which a change regarding the coverage assumptions and associated investments should at that moment be included.

³² See page 39 e.g. <http://intermedia.jaarverslag2017.be/inter-media/verslag-van-de-raad-van-bestuur>

³³ See Integan annual report for the year 2017, page 37 and 53.

³⁴ See Inter-Media's annual report for 2009, page 30.

³⁵ See page 14 of the cost model manual (Dutch version).

Note that today the cable operators refuse to provide wholesale access to homes for which the cable network has been deployed or upgraded following the market analysis decisions of June 2018.

Regarding the coverage assumptions, Orange Belgium notes that the coverage degrees (or the cost-model) don't differentiate between areas that are subject to regulation and areas that are not subject to regulation because of the presence of 3 NGA networks in the related area. While such "deregulated" areas are basically non existing today, in the future such areas may increase in number and scale. Orange Belgium considers that to reflect this in the model today is not required but it may be an element for consideration for future evolutions of the cost-model.

9. ECONOMIC LIFETIME OF ASSETS

The assumed economic lifetime of key assets in the HFC network remain very low, which results in the annualised costs in the Axon model being significantly overstated.

This is particularly the case for new co-axial cabling and poles (20 and 15 years respectively). The assumed lifetime of 20 years for co-axial cabling is much lower than the lifetimes assumed in recent HFC cost models produced in other jurisdictions.

In addition, operational experience in Belgium indicates that the useful working lives of these assets is much longer than 35 years. As explained in the response on the RAB-based approach above, co-axial networks were largely deployed in the 1970's and 1980's, and there is no evidence that HFC operators have undertaken large scale replacement of co-axial cabling and associated infrastructure since then. HFC operators have also stated that recent upgrades to active equipment in the HFC networks will prolong the lifetime of the coaxial network even further.

Asset	Axon HFC Model	Denmark	Israel
Co-axial cable	20	30	30
Fibre feeder cable	20	N/A	35
Trench	40	40	35
TAPs	10	30	N/A
Amplifiers	10	15	N/A

Figure 7 Comparison of asset lifetimes – Axon HFC model and HFC models in Denmark (2018) and Israel (2017).

Regarding other assets, the table above also shows that the assumed lifetimes for fibre cabling, TAPs and amplifiers are also significantly lower than those used in the Denmark and Israel models (20 years versus 35 years for fibre cabling, and 10 years versus 20-30 years for TAPs and splitters). As equipment is developed based on international standards, there is no reason to believe that the lifetimes of these assets in Belgium would differ significantly from those in Denmark and Israel. The proposed 4 year lifetime proposed for HSS, BRAS, Radius, DNS also appears too low, and should be 6 to 10 years.

The regulators should reconsider the chosen lifetimes for these assets in the light of this evidence. Without changes to the lifetimes, the regulators are significantly overestimating the modelled annualised costs and in turn the appropriate wholesale charges.

10. UNIT COST TRENDS

The assumed growth in unit costs remains too large, and results in an overestimation of costs in the model. This is the case for both unit operating costs and the unit capital costs.

A. Unit operating costs

The cost-models continue to assume growth in unit operating costs of 2%, consistent with the current CPI inflation in Belgium.³⁶ The regulators argue that no downward adjustments to cost trends are needed to reflect efficiency gains, as the cost models already model the cost of hypothetical efficient operators.³⁷

However, the expected level of costs for a hypothetical efficient operator will change over time reflecting changes in three main factors:

- The level of input costs such as labour and goods and services purchased;
- the level of output (i.e. demand for services); and
- the efficiency with which inputs are used to produce outputs, e.g. productivity gains due to new processes and equipment.

Whilst Orange agree that the current level of efficiency, compared to actual operators, are already reflected by modelling an efficient operator, and the model adequately models the link between demand changes and costs, a further adjustment still needs to be made to account for growth in productivity. For example, Ofcom, in an analogous decision, set the charge control on an annual estimate of efficiency gains of 4.5%³⁸, higher than the corresponding level of inflation, leading to costs falling in nominal terms.

Productivity growth reflects that over time, companies will be able to produce more output, or carry out more activities, from the same spend on labour and materials. In practice, this means that cable operators will be able to carry out the same level of activities (e.g. fixed network faults, deploying assets), with less spend on staff. This must be reflected in the model through a downward adjustment to cost trends.

These productivity gains are likely to be significant in the telecommunications industry, given the industry benefits heavily from advances in technology. This is supported by the activities and statements of Telenet. In particular, Telenet are using new technology to improve their network management systems and optimise their use of power in their network, which will allow them to maintain their current level of network opex to remain despite growth in the network:

³⁶ CPI inflation was 2.3% in 2018 and is forecast to be 2.1% in 2019 – see European Commission. https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-performance-country/belgium/economic-forecast-belgium_en

³⁷ See section 3.1 of the Axon Model Documentation accompanying the BIPT Draft Decision.

³⁸ Ofcom Wholesale Local Access Market Review: Statement Para A19.128

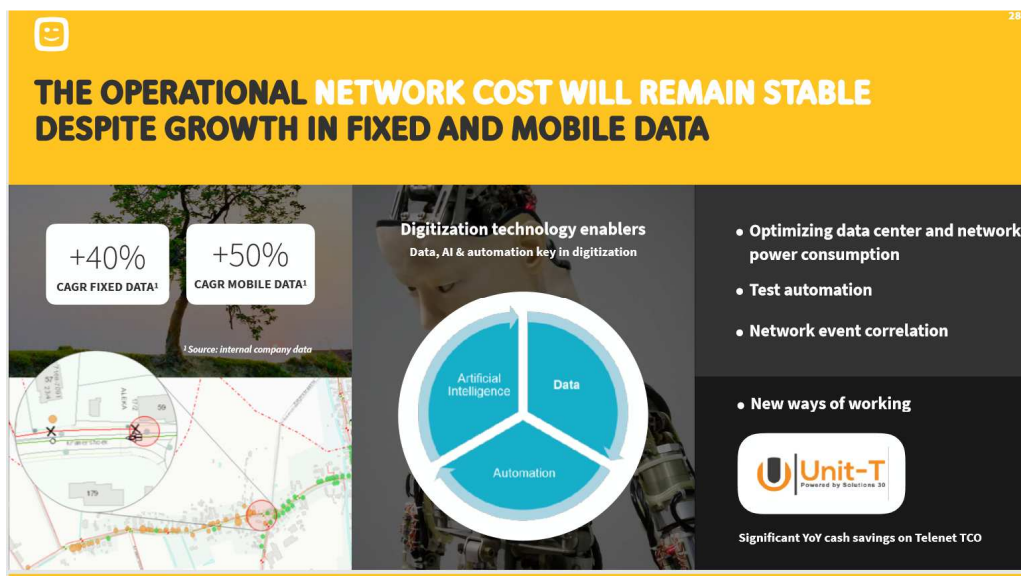


Figure 8 Telenet Capital Markets Day, December 5th 2018, Slide 28 http://media.corporate-ir.net/media_files/IROL/24/241896/2018/CMD%20Presentation.pdf

This is also supported by recent data in the Belgian telecommunications sector, which shows large increases in productivity. In practice, productivity is growing if the output per hour worked is growing faster than average hourly earnings. Data from the OECD shows that since 2012, the Gross Value Added (GVA)³⁹ per hour worked in the communications sector has grown by 2.7% per year in real terms, over 1.5% faster than growth in real hourly wages (which has seen annual growth of 1.1% over the same period).⁴⁰

Given this, growth in unit opex of closer to 0% per year would be a more appropriate assumption.

B. Unit capital costs

The trends in unit capital costs will also inflate costs above that of a hypothetical efficient operator.

First, as noted by the regulators, the trends in unit capital costs reflect both the forecast trends in equipment prices, and trends in the associated labour (installation) costs. As the productivity gains need to be reflected in all labour-related costs, the trends in the labour-related element of the unit capital costs must also be adjusted downwards.

The assumed unit capital cost trends for some assets are also higher than in HFC cost models in other jurisdictions. For example, for transmission / core trenching, the assumed annual increase of 4.26% is larger than in the recent HFC models in both Denmark and Israel (2% and 2.63% respectively).

³⁹ GVA is the standard measure of the value of goods and services produced in a given sector of an economy.

⁴⁰ Data from OECD.Stat on the “information and communication” sector - Real GVA and real labour compensation per hour worked. See <https://stats.oecd.org/>

11. IT MARK-UP

The 7.4% IT mark-up applied to network costs remains too high, as it over-estimates the efficient IT costs needed to support wholesale access services.

A. The mark-up exceeds by far the retail related IT costs of an efficient operator.

Based on the benchmarks Orange believe a substantially lower IT mark-up is more appropriate.

B. Most of wholesale IT costs have already been paid.

Orange reminds the regulators that based on its market analysis decisions of 2011, substantial wholesale-IT related investments had to be made by all operators, and that alternative operators making use of the wholesale access regulation had to pay a proportion of the related costs. While some operators delayed the development of fit for purpose wholesale systems, the consequence of such delayed development should not be that wholesale related IT-costs can be recovered twice (once via the system set-up costs paid by the alternative operators, and another time by an overestimated mark-up of the costs to address wholesale related IT-costs).

More in detail, Orange Belgium already paid for these developments through:

- Lump sum downpayments of over €2 m (for €750.000 for Telenet, €750.000 for Brutélé/Nethys, €600.000 for Coditel);
- A 5 € connection fee per connected customer;
- An amount unknown to Orange Belgium, but which corresponds to a certain percentage correction for the monthly fees paid to the cable operators, and this for the full period until today (taking into account that the current tariffs are de facto still based on the retail-minus wholesale tariffs).

By consequence, the IT mark-up should only consider future development requirements, and requirements associated with new requirements imposed via the 2018 market analysis decisions. Overall, the development costs of these new requirements should represent only a small fraction of the historical wholesale IT development costs.

C. The proposed IT-mark-up clearly leads to unrealistic outcomes

The current IT mark-up of 7,4 %, in combination with the order of magnitude of the wholesale tariffs as proposed in the draft decision, would imply an approximate wholesale charge of 60 Mio € per year for Orange Belgium⁴¹.

A 7.4% mark-up would represent around **4.44 Mio € per year for the proportional contribution** of the alternative operator to IT-systems relating to network and wholesale. This is by no means realistic.

This is the more unrealistic as certain costs associated with the development of wholesale IT-systems are expected to be reflected in the future one-off charges (activation, service change, ...), which would imply an important risk of double-counting.

⁴¹ Conservatively assuming roughly 250.000 customers * 20 €/month * 12 months).

12. ALLOCATION OF ACCESS NETWORK COSTS TO SERVICES

Orange agrees with the revised allocation of access network costs to different wholesale products, as the resulting service unit costs now better reflect cost causality.

In particular:

- The cable access charge, which is charged for all customers irrespective of the service they use, only reflects the cost of co-axial cabling and associated civil infrastructure, and the cost of Local Head Ends. This is appropriate, as these costs are “Customer-sensitive” i.e. costs that vary depending on the number of customers served or homes past, rather than the provision of an individual service.
- All remaining access network costs, such as the cost of fibre cabling, TAPs, amplifiers, and splitters, are recovered through charges for individual services. This is again appropriate, as these costs vary with the individual service provided (i.e. are “service-sensitive” costs). For example, the investment in fibre access cabling has been made to offer new two-way services such as cable broadband, and upgrades/replacement and deployment of more optical nodes, amplifiers, TAPs and splitters have been made to increase bandwidth and capacity.
- These “service-sensitive” costs are allocated to services based primarily on their required bandwidth, which results in a larger share of these costs being recovered from high-bandwidth services. This again reflects the principle of cost causality, given a large proportion of these investments (i.e. in TAPs, amplifiers, and splitters) have been made to provide greater bandwidth. In the absence of this “gradient” in recovery, investment costs in the network will be recovered through users of services which do not require these investments, such as low-bandwidth broadband and TV services.

13. RECOVERY OF CONNECTION COSTS (11.2)

Orange agrees with the regulators’ proposals for recovering connection costs.

The regulators propose that any required build on private land for a connection is undertaken and paid for directly by the end-user. Any build on public land would be undertaken by the cable operators, and recovered through a “one-off” wholesale charge to retailers, rather than through the proposed wholesale access charges.

Orange agrees that this is the most efficient way to recover the cost of connections, and is consistent with the approach applied in other jurisdictions.

In particular, the application of “one-off” wholesale charges based on actual costs incurred is the best approach to ensuring the correct recovery of costs of build on public land, rather than including predicted costs in the proposed wholesale access charges. This is because the cost of any build on the public domain is hard to predict, meaning any forecasts are likely to distort the access charges and result in a great risk of over or under-recovering the connection costs. This approach also does not create pricing uncertainty for retailers, given that (i) these costs are likely small in the majority of cases, and (ii) that they can be passed directly onto customers as part of the connection charge.

14. CHARGES FOR DIGITAL AND ANALOG TV SERVICES

A. Tariff structure for digital TV – regional charges (section 13.1.1)

Overall Orange Belgium considers that the reviewed approach for charges for the digital TV channels corresponds substantially better with the underlying costs. It also welcomes the clarification regarding the charges that apply for “own channels”.

Nevertheless, further adjustments to the draft decision can be made in order to link the regulated charges better with the underlying costs and to allow alternative operators to design and tailor their TV-offer better to the regional customer needs.

Considering the high degree of variability in the number of channels between the different regions covered by a single cable-operator (cf table hereafter), the proposed pricing structure for digital TV channels clearly implies that alternative operators will end-up overpaying the cable operators, and that alternative operators may be forced to buy services that they are not interested in to acquire. For the cable operators, the draft pricing structure implies an over-recovery of costs.

The table below illustrates⁴² the number of high definition and single definition channels on the Telenet and VOO network, and this for the various zones where a differentiated cable operator TV offer exists. It also illustrates the number of local TV channels (local/regional subject to the area) that exist across cable networks.

	Regional			
	HD	SD	HD	SD
TLN Vlaanderen	53	25		16
TLN Wallonia	42	27		
TLN Brussels	65	42		
Merged Telenet (incl. regional)	67	60		
VOO Wallonia HD	23	42	2	12
VOO Wallonia non-HD	9	56		12
VOO Vlaanderen	25	58		
VOO Brussels	31	53		
VOO German	23	48	2	1
Merged VOO (incl. regional)	33	87		

The current charges proposal implies a given, undifferentiated, charge for a channel independently on the scope of its distribution (all regions, Brussels only, ...). While this is simple from operational point of view, it implies high charges for channels that are distributed locally only. Orange Belgium considers that a proper balance between charging approaches and operational management must be defined, while taking the nature and relationship of the underlying costs into account.

Obviously for **local/regional** channels where there is no overlap between the distribution zones of the channels Orange Belgium considers that only the charge for one channel should be considered for the determination of the wholesale rental fee for the full set of regional channels as the underlying network resources used by the full set

⁴² The values are those of July 2019. For the regional channels the figures are indicative only.

of different regional channels are identical to the resources used by a single channel which is available on the full cable network footprint.

Furthermore, it is clear that the costs for the distribution of a channel in Brussels are not the same as the costs for a channel in the entire region of Flanders or Wallonia.

It should be noted that Telenet itself already acknowledged that regional differentiation is possible and reasonable as it proposed such approach for the pricing of “own channels” in the context of its reference offers.

Alternative operators should be allowed to differentiate their services in the same way as the cable network operators. The above table clearly indicates that the cable network operators don't distribute the same channels across the entire network footprint. This is rational taking the diverging customer requirements in different regional zones into account (eg more French channels in the South, more Dutch channels in the North, more international channels in Brussels etc). To ensure that such differentiation can be done in a non-discriminatory way between the cable network operators and the alternative operators, reduced charges should apply for channels that are distributed on a limited region only. These reduced charges should be proportional to the approximate number of households covered by such region.

To allow future evolutions of the distribution regions, one may consider to include a general description of how the wholesale charges are defined in function of a new definition of such regions (eg proportional to the number of homes passed in the related region).

B. Quality of TV-channels and co-existence of different TV-qualities

Clarification should be provided in case a channel is available in both SD and HD (which is the case on the VOO footprint). Orange Belgium considers that it should not pay for both channels when present on the same footprint as otherwise this could be used by the cable operators to artificially increase the cost of the regulated access by distributing all channels both in SD & HD. Only channels in the quality that are effectively offered to the customers of the alternative operator should be charged, and this only for the region on which the given quality is distributed, to avoid that alternative operators end up paying for services that are not required.

Note that charges that anticipate future TV quality levels (such as 4K) should be defined to avoid later discussions.

C. Specific channels of alternative operators (13.1.3)

Orange Belgium agrees that the charges for the specific channels differ from the other channels.

Clarification should be provided in case more than one alternative operator uses the same specific channel. In such case, the charge for the specific channel should be divided by the number of alternative operators making use of the channel, as otherwise clearly the cable network operator would over-recover the incurred costs for the distribution of the channel on its network.

Also for specific channels a regional charging approach should be defined, as the relevance of certain specific channels may clearly be limited to a certain linguistic region. In the context of its reference offer Telenet already proposed such regional charging approach.

Obviously the tariffs for a specific channel should end (and replaced by the charges for a shared channel) as soon as the cable network operator has integrated the specific offer also in its own retail TV service offer.

D. Charges for analog TV channels

Before all, taking into account that alternative operators do not have any control regarding which channels are distributed via the inefficient analog TV service, they are de facto forced to supply a service which they don't necessarily want nor ask.

Notwithstanding the above, we note that the draft decision provides a single, "all or nothing" charge for analog TV. While such approach is simple, it doesn't seem to relate to the underlying cost of providing analog TV services nor does this approach provide an incentive for the cable network operators to switch off the inefficient provision of analog TV channels.

E. TV charges for new entrant operator (§180)

While Orange Belgium does not disagree with the chosen approach for the charges of a new entrant operator, the draft decisions are not sufficiently clear regarding the modalities that will apply in case such new entrant operator arrives.

F. Carriage fees and channel charges should not lead to double compensation of the same costs

The cable network operators charge, either directly or indirectly (via a reduction of the charges paid for the rights for the distribution of a channel) the TV-channels for the transport of the channels on the cable network. It is clear that the amounts paid by the channels for their distribution should be integrated, and discounted, from the costs to be paid by alternative operators for the distribution of the channels.

PART 2. ADDITIONAL COMMENTS REGARDING THE DRAFT WHOLESALE PRICE DECISION.

The following additional comments are drafted in sequence of the draft decision of the BIPT. Each comment refers to the related paragraph or section. The sequence of the comments is no indicator of their importance.

A. § 78 WACC

Taking into account that the final decision regarding the WACC is now published the footnote 57 page 30 can be amended. A similar comment applies to § 191.

B. § 97. Telephony stand-alone services

Some cable network users use the cable access only for fixed telephony services. Given the most likely very limited number of such users, it may be relevant not to consider these cases. This could possibly be clarified.

C. §180 Differentiation between operators / wholesale-resale

As a general comment (in general for broadband and TV, but in particular for TV-services given the difference that is made between operators of a different scale, Orange Belgium suggests to make it explicit that the wholesale charges defined in the decision apply independently on whether the regulated wholesale input is used to provide retail or wholesale services.

D. 14. § 185 Retained tariff structure

We refer to our comments on other parts of the draft decisions regarding a number of principles underlying the proposed tariff structure.

These comments imply that the following comments apply to this section:

- For all TV services (analog TV, digital TV shared channels, digital TV own channels) we consider that the prices should also be defined per relevant region or subregion (this could coincide for instance with the current distribution regions or another relevant subdivision).

E. §199 : WACC – reasonable margin

We assume that the “reasonable margin” referred to at the end of the paragraph is intended to refer to a margin beyond the reasonable margin which is already included in the WACC. This might be clarified.

F. 16.7. Rules for interpolation and extrapolation for broadband

We welcome that a clear formula for the determination of the charges for profiles for which no predefined charges are given is provided.

We note however that the charges put forward for specific broadband speeds in the draft decision and the result of the proposed formula⁴³ to determine the wholesale charge for a given bandwidth, do not always *fully* match.

⁴³ $TARIF (A Mbps) = \frac{A}{100} * TARIF (100 Mbps) * (1 + MARGE_RAISONNABLE(A)),$

While the differences obtained are (very) small, we recommend to make sure that there is coherence between the values defined in the decision and the outcome of the formula. This will avoid confusion and/or discussion, while it increases legal certainty.

G. 16 Conclusion regarding the tariffs

The draft decisions put forward tariffs that apply for a given year. For its current simulations, Orange Belgium has assumed that the charges put forward for a given year would apply as of January 1st of the year. While this seems to be the case, to avoid any ambiguity regarding this principle, Orange Belgium suggests to add a paragraph in section 16 to clarify that the tariffs defined for a given year enter into force as of the 1st of January of that year.

PART 3. ADDITIONAL COMMENTS/SUGGESTIONS REGARDING THE DOCUMENT “BULRIC MODEL VOOR HFC-NETWERKEN – BESCHRIJVENDE HANDLEIDING”.

The following comments address, in sequence of the document, further issues regarding the cost-model.

Dimensioneringsmodule – 7.1.1.2 – page 32 - OpEx kost van de NIU : Orange Belgium confirms that any **operational costs associated with the NIU** are borne by the operator serving the customer associated with the NIU, so for Orange Belgium’s customers it is Orange Belgium who carries these costs.

Dimensioneringsmodule – 7.1.1.3 – Tap – page 32/33 : The document puts forward that following the consultation the number of **2-way TAP’s is considered as 4-way TAP’s**. It is not clear why this is considered to be the case, and whether this could give unintended consequences at other layers in the cost-model.

Dimensioneringsmodule – 7.1.1.4.2 – page 37 - Civile infrastructuur in het toegangsnetwerk. It is unclear if, for poles and civil works, **synergies with other utility providers** have been taken into account (electricity, fixed telephony). While the text refers to “wooden poles”, there are no wooden poles assumed in the cost model, while in reality such poles can be observed in many rural areas.

CAPEX- & OPEX-kostenmodule – 8.3 – page 53 – Orange Belgium considers that the positive effects of measures that should allow to **reduce the cost of deploying and maintaining broadband networks** are not properly reflected. While the transposition of the Broadband Cost Reduction Directive (Directive 2014/61/EU) was delayed (one of the implementation Royal Decrees was published in the State Gazette as recently as July 29, 2019)⁴⁴ it is clear that in the future synergies with utility providers should allow the deployment of additional network components at reduced costs. The fact that the cost-model assumptions are in line with the OpEx-costs put forward by each cable network operator today is therefore not a sufficient element for maintaining these costs towards the future.

⁴⁴ Arrêté Royal relative à des mesures ferroviaires visant à réduire le coût du déploiement de réseaux de communications électroniques à haut débit

ANNEX – DETERMINATION OF THE DEMAND AND DEMAND EVOLUTION FOR FIXED BROADBAND SERVICES

In the context of the wholesale price decisions, it is clear that the assumptions regarding the peak-usage of internet services is a key element with respect to the future evolution and level of the wholesale charges that an alternative operator will have to pay.

Orange Belgium, as pointed out in the other parts of these comments, is convinced that the current demand assumptions are clearly underestimating the demand that would apply in a more competitive market.

In the below, Orange Belgium compares the local situation with a number of benchmarks and general findings :

- Telenet own public statements regarding usage;
- CISCO Visual Networking Index.

Telenet usage : 150 GB per month in 2016.

In an official press communication of Telenet of June 23, 2017⁴⁵, it put forward the following :

Het dataverkeer blijft toenemen: terwijl we in 2011 op het vaste netwerk tot 27 gigabyte (GB) per maand gebruikten, steeg dat in 2016 naar bijna 150 GB. Dat is een vervijfvoudiging op evenveel jaar tijd. Ook de gemiddelde snelheid waarmee we surfen, neemt aanzienlijk toe: de maximumsnelheden verviervoudigden, van 50 megabit per seconde (mbps) in 2011 naar 200 mbps in 2016.

This statement claims that already in 2016 customers used almost 150 GB per month, which can hardly be considered as a typo given that the volume referred to is “een vervijfvoudiging” versus the value of 27 GB back in 2011.

Orange Belgium by consequence questions the assumptions and values put forward by Telenet regarding the usage on its network. If data are used which deviate very substantially from publicly communicated data, this triggers clearly questions regarding the reliability and credibility of the assumptions.

CISCO VNI index. Extracts.

The CISCO Visual Networking Index report benchmarks and reports on the evolution of internet traffic over time.

The report for 2017-2022 can be found here :

<https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-741490.html>

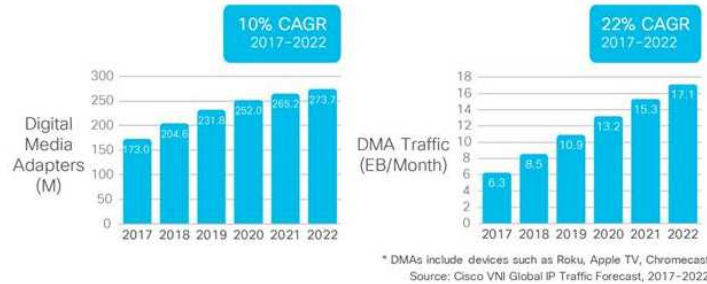
While the report addresses a wide variety of assumptions, in the below extract we highlight some which may be of relevance in the context of the cost-model and the related assumptions:

⁴⁵ See : <https://press.telenet.be/vlaanderen-surft-binnenkort-op-internet-van-de-toekomst>

- Assumption regarding the evolution of “settop-boxes” versus internet-access based digital media adapters :

Also, if we look at Internet devices such as Digital Media Adapters (DMAs), we find that although they will represent only 9 percent of all Internet connected TVs—including, service provider STBs, gaming consoles, and directly connected Internet TV sets—by 2022 they will represent 18 percent of global Internet connected TV traffic. This trend again shows that there is increasingly less reliance on STBs managed by service providers for Internet access in general and for video specifically (Figure 15).

Figure 15. Growth in global digital media adapters

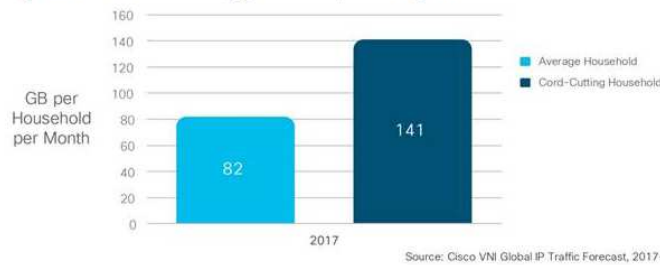


This shows that TV services via settop boxes will transform to video services via DMA, implying that TV-traffic will shift to broadband traffic quickly.

- The difference is even more important when looking at the usage of household that don’t take a typical TV-subscription anymore : the worldwide average usage is 82 GB for the “TV”-household, 141 GB for a household without traditional TV.

From a traffic perspective, we expect that on average a household that is still on linear TV will generate much less traffic than a household that has “cut the cord” and is relying on Internet video (Figure 16). A cord-cutting household generated 141 GB per month in 2017, compared to 82 GB per month for an average household. This difference occurs because linear television generates much less traffic (one stream of video shared across numerous linear-TV households) than Internet video, which is unicast to each Internet video device.

Figure 16. Global cord cutting generates 72 percent higher traffic



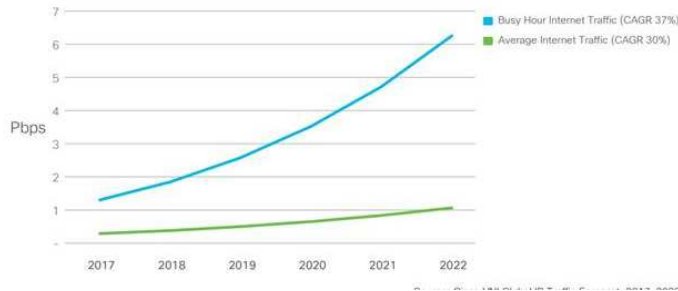
- The traffic growth is substantially stronger in peak times than it is in average.

Trend 9: Traffic-pattern analysis (peak compared to average, CDN uptake and SD-WAN)

Although average Internet traffic has settled into a steady growth pattern, busy hour traffic (or traffic in the busiest 60 minute period of the day) continues to grow more rapidly than average Internet traffic. Service providers plan network capacity according to peak rates rather than average rates. Between 2017 and 2022, global busy hour Internet use will grow at a CAGR of 37 percent, compared with 30 percent for average Internet traffic (Figure 23).

Video is the underlying reason for accelerated busy hour traffic growth. Unlike other forms of traffic, which are spread evenly throughout the day (such as web browsing and file sharing), video tends to have a "prime time." Because of video consumption patterns, the Internet now has a much busier busy hour. Because video has a higher peak-to-average ratio than data or file sharing, and because video is gaining traffic share, peak Internet traffic will grow faster than average traffic. The growing gap between peak and average traffic is amplified further by the changing composition of Internet video. Real-time video such as live video, ambient video, and video calling has a peak-to-average ratio that is higher than on-demand video.

Figure 23. Busy hour compared with average Internet traffic growth



By consequence, there is a very important risk that assumptions regarding the evolution of the peak-usage are underestimated. The report predicts that globally busy hour internet use will grow at CAGR of 37%, compared with 30% for average internet traffic.