

**TELSTRA CORPORATION LIMITED**

**Public inquiry into final access determinations for fixed line  
services—primary prices**

Response to Discussion Paper

3 October 2014

**Public version**

## Overview

- The industry transition to the National Broadband Network (**NBN**) will significantly impact demand for fixed-line services and Telstra's cost of supplying those services.
- Based on the most up-to-date information on the NBN rollout plan and timetable, Telstra expects NBN transition will lead to demand for fixed-line services falling by around 62% over the next regulatory period (between FY2014 and FY2019).
- Telstra's expenditure requirements are also expected to decline as customers migrate to the NBN, although as many of these costs are fixed this decline will not happen at the same rate as the decline in demand. For the purposes of providing inputs to the ACCC's price setting process, Telstra is forecasting fixed line network operating and capital expenditure to decline significantly between FY2014 and FY2019.
- The proportion of this expenditure allocated to regulated products is also likely to fall over the regulatory period, as an increasing share of the cost of the fixed line assets (particularly duct and exchange building assets) is allocated to NBN Co's use.
- Ordinarily, under the "building block" regulation model used by the ACCC, such a large and rapid decline in demand and high fixed costs would mean that unit prices would need to increase in order to allow Telstra a reasonable opportunity to recover its costs of supply.
- However, Telstra has sought to limit the required adjustment to service prices, through a conservative approach to expenditure forecasting. Telstra has also proposed that any price adjustment be applied uniformly across all of the regulated fixed-line services, in order to preserve existing price relativities.
- The result of this work is that despite the expected decline in demand associated with NBN migration, Telstra's current expectation is that prices for the regulated fixed-line services can be lower by FY2019 than they are today, in real terms.
- At this stage, and based on particular assumptions regarding the NBN rollout, Telstra estimates that a once-off increase in prices of approximately 7.2% in the first year of the period is required, followed by unchanged prices in the subsequent years. This will mean a steady decline in prices over the remainder of the period in real terms.
- Telstra's proposal reflects our concern to ensure cost recovery in line with a proper application of the 'building block' regulatory framework, while ensuring real price stability for industry during the period of the transition to the NBN.

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## Executive Summary

The Australian Competition and Consumer Commission's (**ACCC**) consultation on price terms for the declared fixed line services<sup>1</sup> comes at a critical time for the industry. Over the period for which prices are to be determined, the industry will be undergoing a major and permanent structural transition, as end-users and services migrate from Telstra's fixed line network to the National Broadband Network (**NBN**).

The ongoing transition to the NBN will significantly accelerate the ongoing decline in demand for fixed line network services (including the regulated fixed line services), impacting on the costs and allocation of costs relevant to the operation of the fixed line network. These significant changes to both demand and costs relevant to the fixed line network need to be recognised by the ACCC and addressed through the price-setting framework to ensure that:

- Telstra is provided with the opportunity to recover its costs of operating and providing access to its network, consistent with the Fixed Principles established by the ACCC;
- Access seekers and Telstra are provided certainty regarding fixed line services prices as the NBN transition occurs; and
- The broader telecommunications industry and end users are provided a stable regulatory and price platform for transition to the NBN, which encourages an efficient and effective migration to the new network, avoiding disruption and volatility in the market for legacy fixed line services.

As most of Telstra's network costs are fixed, it is inevitable that if the number of people who use the network declined the cost per user would rise. The likely impact of the NBN transition on the demand for and costs of operating the fixed line network, as well as the impact on the allocation of these costs among different users of the network, will mean that current regulated fixed line service prices will have to increase – in nominal terms – to provide Telstra with a reasonable opportunity to recover its costs over the regulatory period.

The critical question is then how to adjust current prices to provide Telstra with the opportunity to recover costs, whilst providing certainty to the industry, minimising disruption in the market for voice and data services and ensuring the effective and efficient transition to the NBN. In Telstra's view, it is crucial that the way in which prices are determined for the fixed line services provide long term regulatory certainty for industry during the transition period. Stable pricing outcomes will promote efficient migration of end-users to the NBN, and facilitate investment and innovation by the industry during the transition to a structurally separated industry supplied with wholesale-only fixed line services by NBN Co.

For the purposes of providing forecasts for use in the ACCC's price setting process, Telstra has adopted a clearly conservative approach, assuming relevant fixed line network operating and capital expenditure will decrease significantly by FY2019. These conservative forecasts reflect the regulatory requirement that Telstra demonstrate the prudence and efficiency of its forward looking costs. In the context of setting prices, given Telstra's conservative approach expenditure forecasts, and if the ACCC were to adopt a pricing approach that emphasises stability – it is likely that prices for the regulated fixed-line services would be lower by FY2019 than they are today, in real terms.

<sup>1</sup> Unconditioned Local Loop Service (**ULLS**); Line Sharing Service (**LSS**); Wholesale Line Rental (**WLR**); Local Carriage Service (**LCS**); Fixed Originating and Terminating Access (**FOAS and FTAS**); and Wholesale ADLS (**WDSL**).

## The implications of the NBN transition for fixed line services prices

The transition to the NBN will result in an unprecedented change to the supply of fixed line services by Telstra. It will impact on demand for services and utilisation of the network, as well as impacting network costs (operating and capital expenditure) as follows:

- Demand for fixed line network services (including the regulated wholesale fixed line services) will decrease, largely due to the impact of the NBN and the migration of end users to the new network. However, fixed line services will also face ongoing competition from mobile services, which is expected to increase, particularly with respect to fixed line network voice services.
- As overall network demand declines, the relative use of the network will change. Fixed line voice usage is expected to continue to decline at a faster rate than fixed line access services, broadband services will continue to grow as a proportion of total lines, and use of unbundled services – principally the ULLS – is also expected to increase compared to PSTN basic access services.
- In terms of costs, Telstra will reduce variable costs on the fixed line network, with the cost associated with activities such as fault repair expected to decrease as end user services migrate to the NBN. At the same time, Telstra will face ongoing increases in the price of key inputs (for example, electricity, rental costs and labour) and will be required to maintain and operate the fixed line network
- Over the regulatory period, the use of the fixed line network will also be impacted by NBN Co's increased use of ducts, network buildings and other fixed line network assets. In addition, a significant proportion of Telstra's copper cable assets will be transferred to NBN Co for use in the provision of FTTN services. These changes in use of the fixed line assets need to be recognised, to the extent that they impact on the cost of supply.

Although there remains considerable uncertainty surrounding the timing of the NBN rollout, Telstra has developed a detailed Forecast Model to facilitate understanding of the relationship between falling demand and relevant costs. Given the presence of fixed costs in the fixed line network, the decline in demand is expected to outstrip the decline in relevant costs. Although Telstra forecasts that it will be able to reduce variable costs in line with reductions in demand, fixed (inelastic) costs are not expected to decrease during the transition. The implication is that all else being equal, current service prices will not provide for reasonable cost recovery over the regulatory period.

## Setting price terms under the Fixed Principles

The ACCC's pricing approach for each of the declared fixed line services is governed by a set of Fixed Principles which are set out in the current fixed services final access determinations (**FADs**). At the time these Fixed Principles were established, the ACCC noted that their purpose was to 'lock in' a pricing framework and provide the industry with certainty over time about how the ACCC would estimate prices for the declared fixed line services.<sup>2</sup> This view as to the role of the Fixed Principles is supported by the Explanatory Memorandum to the legislation which introduced the FAD regime.<sup>3</sup>

The Fixed Principles can be seen as embodying a long-term commitment by the ACCC to a particular regulatory approach. Under this approach, Telstra is entitled to a reasonable opportunity to recover the cost of its investments in the fixed line network, while in return access seekers are entitled to access the network at a price no higher than is necessary to recover this cost.

<sup>2</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, pp 127-132.

<sup>3</sup> Explanatory Memorandum, Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2010, 179.

The Fixed Principles provide certainty by establishing a framework for determining prices which is conventional, well understood, and for the most part, relatively mechanical. The building block model (**BBM**) approach that is prescribed by the Fixed Principles involves adding up a set of well-defined cost building blocks to derive a revenue requirement. Under the BBM approach there is scope for some discretion and judgement around certain inputs (e.g. judgement as to the prudence of forecast expenditure or the appropriate rate of return). However the key processes for valuing and rolling forward the asset base, adding up cost building blocks and allocating costs among users of the network are clearly prescribed and are not a matter of discretion for the ACCC.

The key aspects of the Fixed Principles are:

- The locked in initial value of the regulatory asset base (**RAB**) used to supply fixed line services, with no scope for revaluation or *ex post* optimisation of this asset base;
- Use of a BBM approach to determine the revenue requirement, under which the revenue requirement is set equal to the sum of four cost building blocks – the return on capital, the return of capital, operating expenditure and tax liabilities;
- Principles for determining key inputs into the BBM, such as capital and operating expenditure forecasts and the rate of return; and
- Principles for the fair allocation of the revenue requirement among wholesale and retail customers and other network users, based on relative usage of the fixed line network by various services.

The application of the Fixed Principles ensures risk is reasonably apportioned between Telstra as the access provider and access seekers. Under this framework, Telstra is provided with a reasonable opportunity to recover the cost of the supplying the fixed line services, over the life of the relevant assets. Specifically, Telstra can expect to recover a return on and of the remaining value of the fixed line assets, in addition to its efficient operating costs and tax liabilities. Access seekers benefit from having access prices based on the written down, historic value of Telstra's network assets. In addition, because the Fixed Principles only provide Telstra with *the opportunity* to recover costs, access seekers do not face price risk resulting from forecasts not being met. Conversely, Telstra continues to bear the considerable operational risk that it is able to achieve projected cost reductions over the regulatory period.

As in conventional utility regulation models, the Fixed Principles require that expected costs of operating the fixed line network are to be recovered across expected demand for the services using that network. This implies that where the costs of operating the network are largely fixed and demand for network services is falling, there may need to be some increase in unit prices (at least in nominal terms) in order to ensure a reasonable opportunity to recover network costs.

Further, the framework should ensure that cost recovery is fairly borne by all network users, Telstra Wholesale customers and their end-users and Telstra Retail customers. The cost allocation principles seek to ensure that no user of the fixed line network bears a disproportionate burden for the recovery of network costs.

Thus, if the Fixed Principles are properly applied, price outcomes should promote the long term interests of end users (**LTIE**). By allowing a reasonable opportunity to recover efficient costs, the BBM framework will provide incentives for efficient investment in, and efficient use of, infrastructure. Further, by ensuring fair allocation of costs among network users, the BBM framework will promote competition.

### **Relevance of NBN rollout to pricing of legacy services – how to account for the NBN under the Fixed Principles**

Certain aspects of the NBN rollout will be relevant to the determination of prices for legacy services. Specifically, where the NBN rollout impacts on demand for legacy services or the cost of

supply, the Fixed Principles require these impacts to be taken into account in determining prices for the fixed line services.

In addressing NBN impacts, the key consideration is to what extent is the cost of supply expected to change as a result of the NBN rollout. More specifically, it must be considered what impact the NBN rollout will have on each of the cost building blocks. In this submission, Telstra sets out a method for accounting for the impact of the NBN rollout on each of these cost building blocks.

Importantly, other aspects of the commercial or regulatory frameworks associated with the NBN rollout which do not impact on demand for legacy services or the cost of supply are irrelevant to this process.

In particular, the amount of any payments received (or expected to be received) by Telstra under commercial agreements with NBN Co are entirely irrelevant. The amount of these payments does not reflect a cost of supplying the fixed line services, nor does it reflect the amount by which the cost of supply changes at the time of migration. These payments are part of a commercial agreement between Telstra and NBN Co covering a range of matters.

Taking into account any payments received by Telstra (or any access seekers) from NBN Co would be directly inconsistent with the Fixed Principles and the LTIE. The Fixed Principles establish a cost-based pricing framework, under which service prices are established based on a set of well-defined cost building blocks. The Fixed Principles do not allow for 'netting off' revenue from particular sources, in order to reduce the amount of costs which may be recovered.

Some parties (such as Optus) have argued that payments received by Telstra from NBN Co represent a "windfall" which ought to be shared with industry. Even if this were true, which it is not, there is simply no basis in the Fixed Principles for such an approach. To do as proposed by these parties would amount to an *ex post* revaluation of the asset base, which is directly inconsistent with the Fixed Principle which locks in the initial RAB value.

Moreover, from a commercial perspective, this approach implies that access seekers should be entitled to the benefit of a commercial agreement between Telstra and NBN Co, without being exposed to the costs and risks that Telstra will bear under this agreement. In short, this approach implies socialising the benefit of a bilateral agreement, while leaving Telstra to bear the cost and risk under that agreement.

Finally, taking into account any payments received by Telstra from NBN Co in determining pricing for the declared fixed line services may risk disrupting the NBN transition process, if it results in significant price reductions for legacy services. A significant price drop for services on the legacy network would make the NBN a more expensive proposition for industry and consumers, the end result of which would be inefficient investment in and use of legacy infrastructure, and inefficient take-up of NBN services.

### **Stability and regulatory consistency are important in the NBN transition period**

In this submission, Telstra sets out a prudent and conservative approach to determining price terms that can achieve real price stability for industry whilst ensuring Telstra retains the opportunity to recover its costs of supply. Real price stability, which underpins Telstra's proposal, will promote certainty for all industry participants which, in turn, will encourage innovation and investment as access providers, access seekers and end users move to the NBN, achieving the policy aims of structural separation.

Specifically, Telstra proposes that prices for declared services be adjusted one-time and only to the extent necessary to ensure recovery of Telstra's supply costs, and that this adjustment be applied uniformly across the seven declared fixed line services.

Under the Base Case NBN Rollout Scenario (i.e. based on the indicative rollout timetable in the NBN Co Strategic Review), the required adjustment to service prices is expected to be



approximately 7.2% in nominal terms (note, this is a once-off adjustment to prices for FY2016, with prices held flat thereafter), which means that in real terms prices will slightly decrease over the regulatory period.

Telstra also considers that prices should be set until June 2019 (with the expiry date for the replacement FADs to be closely aligned with the expiry date for the service declarations for ULLS, LSS, WLR, LCS, FOAS and FTAS (July 2019)). This implies a regulatory period of between four and five years, based on the expected timetable for making the replacement FADs. Telstra considers that a longer regulatory period is desirable in this case, in order to provide certainty for industry around pricing of legacy services during the NBN transition period.

The reason for Telstra proposing a uniform, one time nominal increase to regulated fixed line service prices is twofold – first to avoid the potential risk to the NBN migration and the risk of dislocation in the market for fixed line services that could result from a simple application of the ACCC cost model to set prices, and second, to avoid the risk of prices having to increase by a substantially greater amount in later years if a glide-path were adopted.

A simple application of the ACCC's Fixed Line Services Model (**FLSM**) model using up-to-date cost forecast inputs would lead to price instability as price levels and relativities for individual services will change significantly from current levels. Were the ACCC to set pricing that significantly changes the price relativities in this manner, this will likely result in a responsive shift in demand (i.e. intra-migration of wholesale fixed line services). Pre-NBN intra-migrations due to significant changes in price levels and relativities would be contrary to the LTIE as it would risk:

- Leading to service disruptions whilst technology cutovers occurred for no end benefit to the end-user (as there would be no improvements to speed or service quality achieved by migrating between legacy based technologies simply because an access seeker was seeking lower input costs);
- Resulting in unnecessary and costly disruption to the wholesale and retail fixed line services markets during the transition to the NBN;
- Deterring investment in, and use of, infrastructure-based services (which could also destabilise past investments) if there are significant decreases in resale prices relative to ULLS and LSS pricing;
- Shifting the industry's focus away from the NBN migration to intra-migrations on the legacy network and, hence, distract industry players from the investment and innovation in relation to the transition to a competitive NBN model; and
- Making it difficult for Telstra to manage demand responses on the fixed line network which could lead to a deterioration of the end user experience (e.g. if the pricing of WDSL relative to the other fixed services is reduced, WDSL demand is expected to increase, potentially leading to network congestion and lower service quality).

Given the forecast decline in demand that will occur over the regulatory period (and the fact that the rate of decline is expected to accelerate over the period), a graduated response to increasing prices could result in very high nominal increases in later years. A one-time adjustment to nominal prices, rather than a glide-path, reduces the risk to end users that remain on the copper network until the end of the transition period, due to the particular rollout schedule adopted by NBN Co, that they could face far higher prices if a glide-path approach were adopted.

For these reasons, Telstra proposes that prices for declared services be adjusted only to the extent necessary to ensure recovery of Telstra's supply costs, and that this adjustment be applied once, uniformly in the first year of the regulatory period, and across the seven declared fixed line services. This approach will provide for real price stability to the extent possible, while ensuring compliance with the Fixed Principles and providing Telstra a reasonable opportunity to recover its costs.

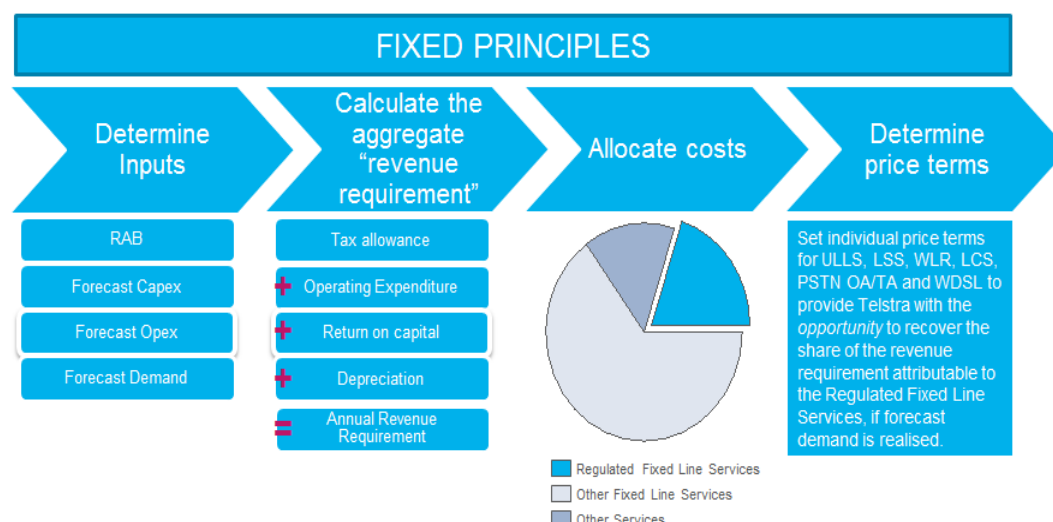


## Overview: Telstra's proposed approach to determining price terms for the fixed line services

Telstra proposes that service prices for the forthcoming regulatory period be calculated in an orthodox manner, consistent with the Fixed Principles.

The BBM approach established under the Fixed Principles involves four steps in setting price terms for the regulated fixed line services, which are illustrated in Figure 1 below.

Figure 1: Overview of the pricing process



The following sections summarise the four key steps required to set price terms under the Fixed Principles.

### Determination of BBM inputs



Telstra has previously provided forecasts of operating expenditure, capital expenditure and demand as part of its response to the 2013 Building Block Model Record Keeping Rule information collection and disclosure notice (**BBM RKR Notice**). These forecasts were submitted to the ACCC in November 2013, along with detailed explanatory material.

Since Telstra submitted its forecasts in response to the BBM RKR Notice, there have been material changes to the external operating environment which have necessitated a review of the forecasts themselves, as well as the forecasting methodology. Most significantly, there has been a change in the planned architecture of the NBN, from a predominantly FTTP architecture to use of a "multi-technology mix" (**MTM**). This has led to a revision of the expected timeframes for NBN rollout, and consequently a revision of timeframes for migration of customers from Telstra's fixed line network to the NBN.

The rollout of the NBN materially affects the key BBM inputs of forecast demand, forecast capital expenditure and forecast operating expenditure. The NBN rollout will also result in changes in the use of Telstra's network (as NBN Co increases its usage of shared infrastructure) and result in certain assets (e.g. distribution copper assets) being transferred from Telstra to NBN Co. All of these impacts need to be taken into account in establishing price terms for the fixed line services.

Forecasting the impact of the NBN is complicated by:

- The scale and uncertainty of the potential impact of the NBN transition – for example, under a reasonable range of assumptions the potential direct impact of the NBN transition on fixed line services demand could range from a 30% reduction by FY2019 to a reduction of over 60%, based on the current NBN rollout timetable; and
- The rate of transition – impacted by both the rate at which NBN Co rollout the new network, as well as the rate at which customers voluntarily migrate to the NBN ahead of the mandated Disconnection Date – is in many respects outside of Telstra's control and also remains highly uncertain.

The recent changes to the NBN deployment model and the re-assessment of the rollout schedule by NBN Co have increased uncertainty with respect to the rollout. This greater uncertainty has necessitated a change to the approach Telstra has used in forecasting demand, operating expenditure and capital expenditure over the regulatory period.

To address this uncertainty, Telstra has developed an integrated forecasting model (the **Forecast Model**), in which NBN rollout scenarios can be inputted by the user, with this information then used to forecast demand, operating expenditure and capital expenditure relevant to the fixed line network, for use within the FLSM. The Forecast Model has been subject to independent expert review.

In addition to developing the Forecast Model, Telstra has re-based its forecasts using actual demand and expenditure data for FY2014. This information was not available when Telstra submitted its forecasts in response to the BBM RKR Notice in November 2013.

#### *NBN Rollout Base Case Scenario*

Throughout this submission, Telstra refers to a "NBN Rollout Base Case Scenario" which has been used to estimate the changes to the key inputs over the forecast period. Under the NBN Rollout Base Case Scenario:

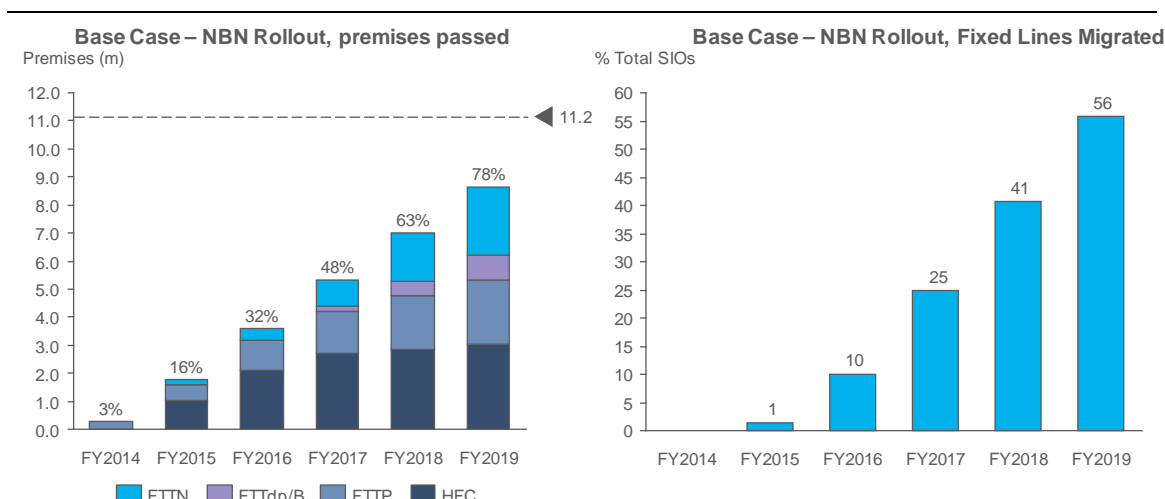
- The NBN is forecast to be rolled out in line with the Scenario 6 optimised multi-technology model (**MTM**) of the NBN as set out in the NBN Co Strategic Review.
- The rate of migration of end users to the NBN once a premises is passed by NBN Co is set at 55% at 12 months and 100% two years later. That is in a given area, at 12 months past the ready for service date, 55% of premises are assumed to have migrated to the NBN and left the fixed line network, with all premises in the area assumed to have migrated within two years (consistent with the 18 month migration timeframe).

The above assumptions are based on publically available data (in the case of the forecast rollout rate) and limited information available to date for the first 15 fibre servicing areas modules (**FSAMs**) that have completed migration.

The Base Case Scenario is not Telstra's "best view" of the NBN rollout – it is in effect a reasonable placeholder that enables the ACCC and other parties to understand the relativities and responsiveness of fixed line services demand and costs over the forecast period. Telstra expects that better information on both the rollout rate and the rate of migration will be available to the ACCC in the course of this inquiry. The Forecast Model will enable the ACCC to update the rollout scenario in order to set fixed line services prices.

Figure 2 illustrates the forecast rollout of the NBN (in terms of premises passed) and the rate of customer migration from the fixed line network to the NBN under the Base Case Scenario.

Figure 2: NBN Rollout Base Case – Premises Passed & Services Migrated, FY2014 to FY2019

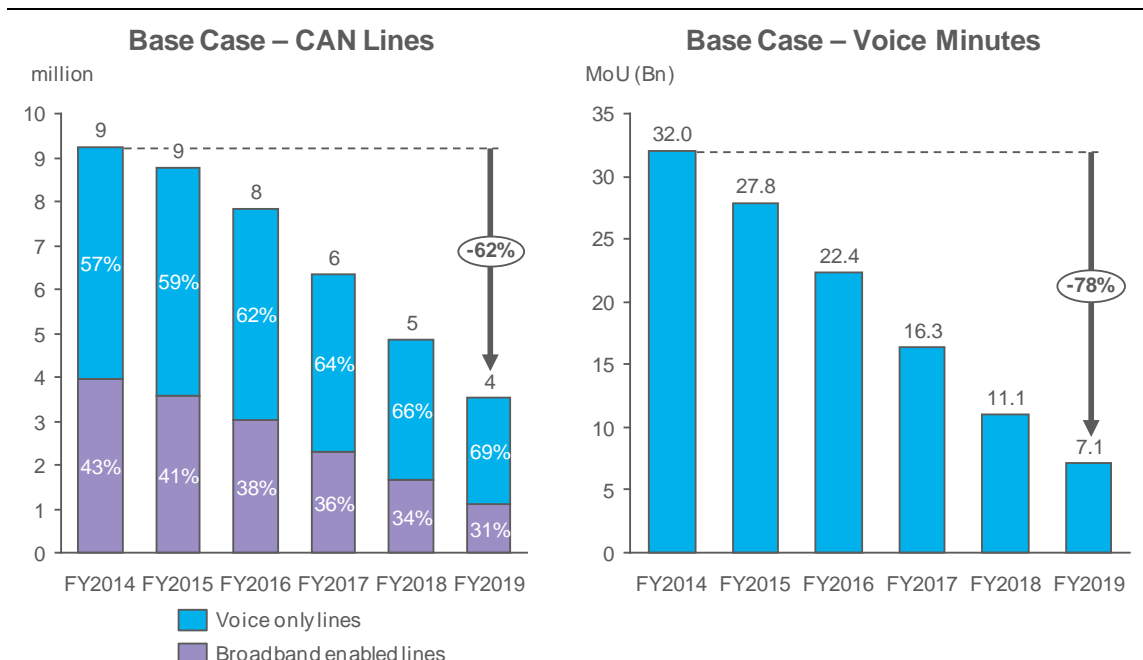


### Demand for fixed line services

Under the NBN Rollout Base Case Scenario, the Forecast Model estimates that total fixed line services demand (as measured by the number of active Customer Access Network (CAN) lines) will decrease by 62% between FY2014 and FY2019 (Figure 3).

The number of access services is forecast to not only be impacted by NBN transition, but also by the well-established trend of fixed to mobile migration, particularly for end users with voice only services. This trend is emphasised in the forecast relative change in the proportion of voice only lines compared to broadband enable lines over the forecast period, as well as the fact that fixed line services voice minutes are forecast to decline at a greater rate than for CAN lines.

Figure 3: Forecast fixed line services demand – NBN Rollout Base Case

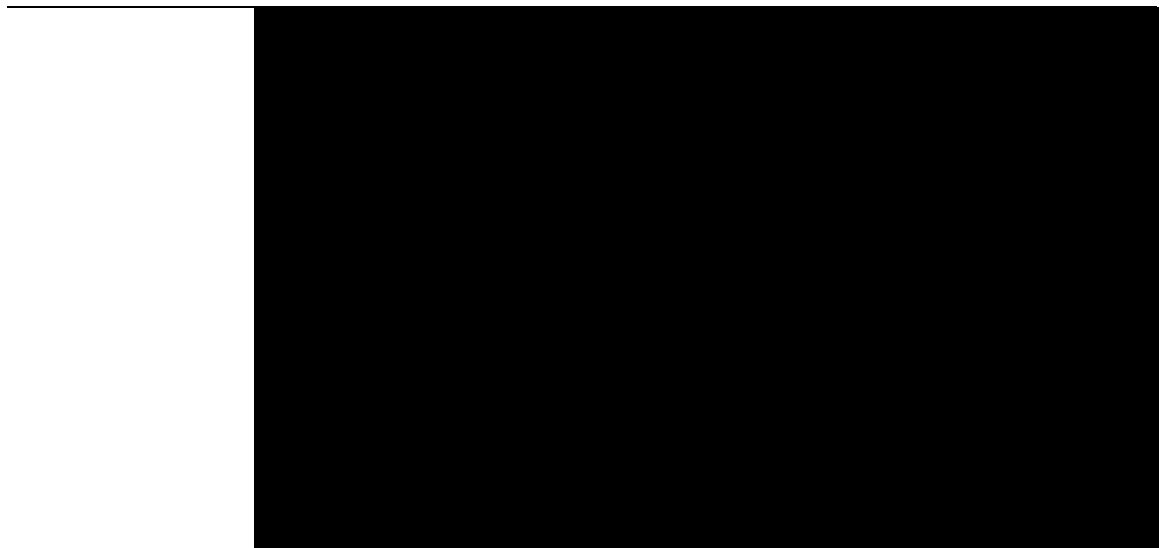


### Operating Expenditure

The Forecast Model sets out in detail how operating expenditure for the fixed line network is expected to change in response to the NBN rollout and changing demand. Telstra's forecast of its

operating expenditure requirements is based on expected demand for fixed line services and expected maintenance requirements and overhead costs, as impacted by the NBN rollout. Under the NBN Rollout Base Case, operating expenditure is expected to decline by [REDACTED] in real terms over the forecast period to FY2019 (Figure 4).

**Figure 4: Forecast fixed line network operating expenditure, NBN Rollout Base Case (\$FY2014)**



Operating expenditure on the CAN Asset Classes is expected to decline by [REDACTED] with indirect operating expenditure expected to decline by [REDACTED]. As set out in the Forecast Model, aggregate operating expenditure will be impacted by:

- A reduction in direct costs associated with fault repair of [REDACTED] in real terms over the period to FY2019. Despite forecast growth in fault rates on the network (consistent with historical trends and impacted by NBN construction and cutover activity) and growth in the unit cost of addressing faults, forecast decline in demand under the Base Case Scenario will more than offset these factors, resulting in a significant overall decline in costs.
- A reduction in costs associated with proactive maintenance and other field tasks in line with the NBN rollout. Under the Base Case Scenario, direct cost associated with proactive maintenance and other field work is forecast to decline by [REDACTED] in real terms over the period to FY2019.
- A slight reduction in electricity costs over the forecast period, with estimated energy efficiency initiatives and network optimisation forecast to counteract expected ongoing rises in electricity cost.
- Increases in costs associated with rents, council rates and similar costs associated with network buildings. These costs are considered to be invariant with respect to demand.
- Cost savings associated with greater efficiency and productivity targets for Telstra's internal labour force of [REDACTED] year on year, more than offsetting expected salary and associated cost increases.

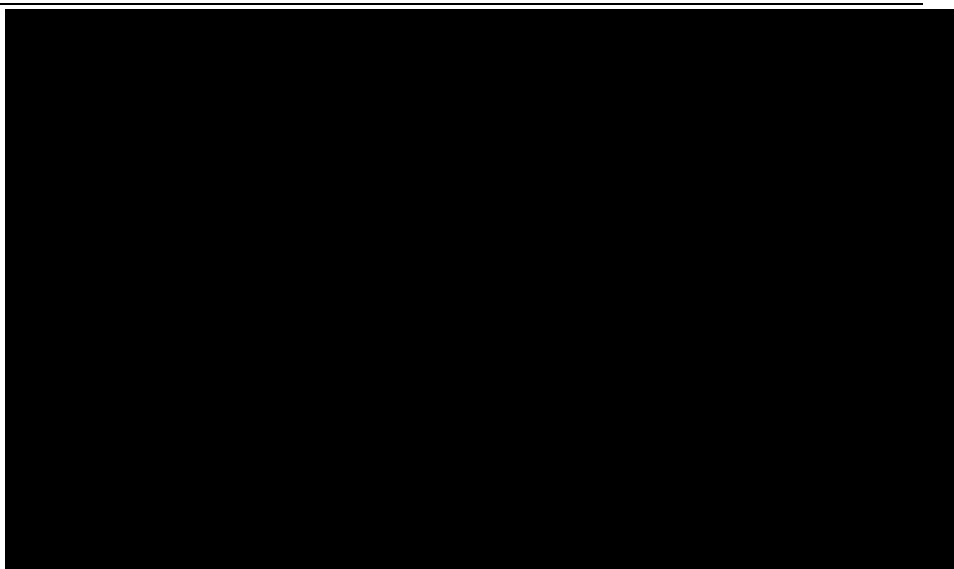
In broad terms, Telstra is forecasting that variable costs, including certain network maintenance and fault repair costs, are highly elastic with respect to demand, whereas other costs including electricity costs, rent and cost of maintaining and operating key IT systems will be relatively inelastic and unresponsive to changes in demand.

Overall, Telstra is forecasting that it will be able to reduce operating costs by around a third, which will require the realisation of significant operational efficiencies and operations restructuring in response to an unprecedented reduction in network demand.

### *Capital Expenditure*

The Forecast Model sets out in detail how capital expenditure for the fixed line network is expected to change in response to the NBN rollout and changing demand. Under the NBN Rollout Base Case, capital expenditure is expected to decline by [REDACTED] in real terms over the forecast period to FY2019 (Figure 5).

**Figure 5: Forecast fixed line network capital expenditure, NBN Rollout Base Case (\$FY2014)**



Capital expenditure with respect to CAN asset classes is expected to be most directly impacted by the NBN rollout, with demand-driven capital expenditure for these assets expected to decline by more than [REDACTED] in real terms. Capital expenditure on core asset classes is also expected to decline in real terms – particularly for data equipment assets associated with the provision of ADSL services – however for many core asset classes the requirement for ongoing investment will remain irrespective of the NBN rollout.

As set out in the Forecast Model, aggregate capital expenditure will be impacted by the need to “make ready” assets for use by NBN Co. Over the forecast period, relevant capital expenditure includes significant expenditure on duct assets required for NBN Co’s forecast use of these assets, particularly over the period FY2016 to FY2019.

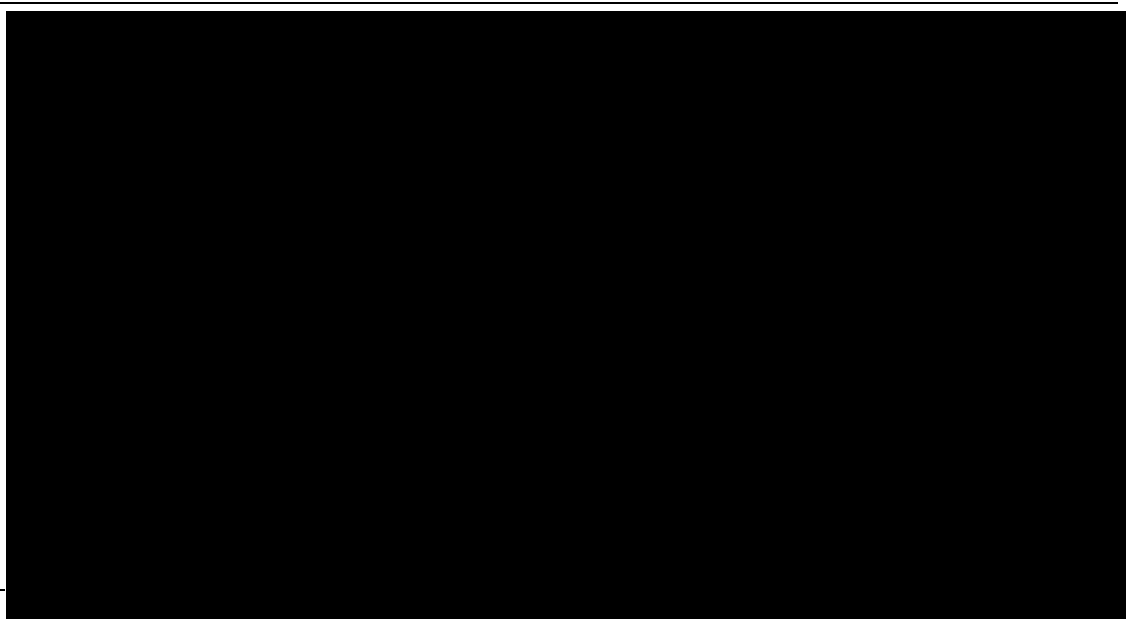
### *Asset Disposals*

In addition to forecasting capital expenditure, it is also necessary to forecast the value of any assets that will be disposed from the RAB over the forecast period.

Telstra proposes that any asset included in the RAB that is transferred to NBN Co under the Definitive Agreements (**DAs**), and which is no longer contributing to the supply of fixed line services be treated as an asset disposal. This will include copper cables forecast to be required by NBN Co for rollout in FTTN areas.

Under the NBN Rollout Base Case Scenario, the proportion of the remaining copper asset value transferred to NBN Co (and disposed from the RAB) will increase each year as the FTTN deployment ramps up, with forecast disposals from the asset base equivalent to approximately [REDACTED] (Figure 6).

Figure 6: Forecast Asset Disposals, NBN Rollout Base Case (% of RAB value, \$FY2009)



#### Calculation of the revenue requirement



Once the BBM inputs have been determined, the revenue requirement for a given period is simply calculated as the sum of the four cost building blocks: return on capital, return of capital (depreciation), operating expenditure and tax allowances.

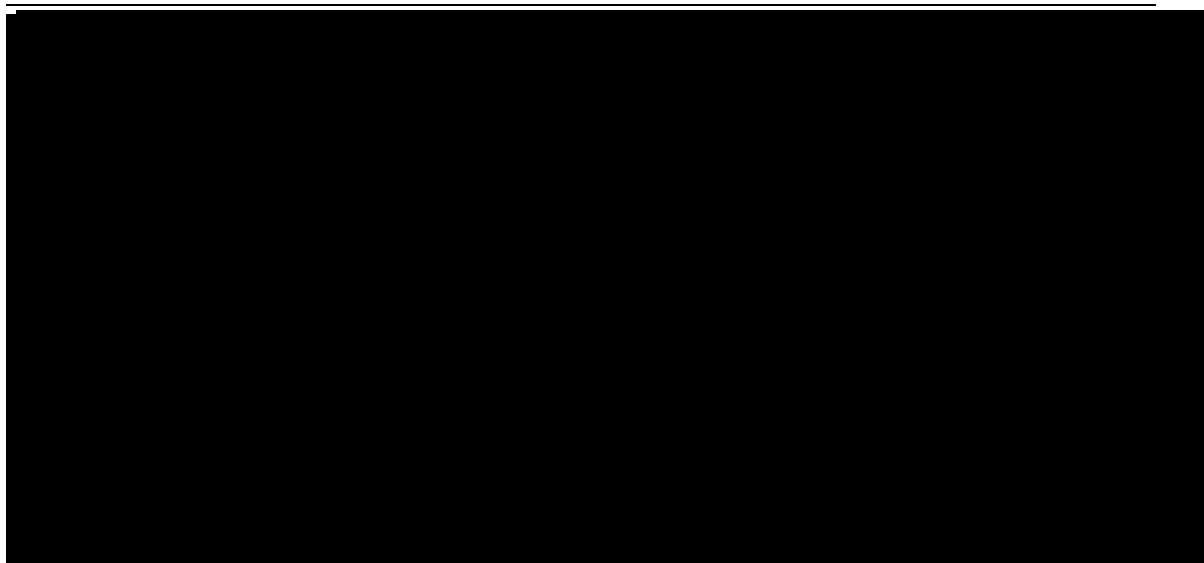
The calculation of the total revenue requirement for the period FY2015 to FY2019 is set out in Table 1 below.

Table 1: Revenue requirement for the fixed line services, NBN Rollout Base Case, FY2015 to FY2019 (\$ million, FY2009)

Return on capital	
Return of capital (depreciation)	
Operating expenditure	
Tax liabilities	
Total revenue requirement	

Figure 7 sets out the forecast annual revenue requirement under the NBN Rollout Base Case – showing the forecast decline in the revenue requirement over the next five years, as well as the significant reduction in the annual revenue requirement compared to the previous regulatory period.

Figure 7: Forecast Revenue Requirement, NBN Rollout Base Case (\$FY2009)



#### Allocation of the revenue requirement



Telstra has developed a fully allocated cost framework for the purposes of allocating the fixed line services revenue requirement among those services that use the network. The purpose of this framework is to ensure that the allocation of fixed line network costs fairly reflects the relative usage of the network by various services.

As noted by the ACCC in its Discussion Paper, Telstra's fully allocated cost framework differs from that used in the 2011 FAD. In the 2011 FAD, the ACCC adopted an allocation framework under which total demand for fixed line services was held constant, and allocation factors for declared fixed line services were only allowed to vary to reflect changes in demand for those services. This is referred to by the ACCC as a 'partially allocated cost' approach.

The 'partially allocated cost' approach is inconsistent with the Fixed Principles and is likely to result in outcomes that are not in the LTIE. Under this approach, the allocation of the costs of operating the fixed line network will not reflect the relative usage of the network by various services, which is required to be used as the basis for cost allocation under the Fixed Principles. In particular, under the 'partially allocated cost' framework, a disproportionately higher share of costs will be allocated to Telstra Retail services.

Telstra has developed a fully allocated cost framework that ensures a reasonable allocation of costs between retail and wholesale services, consistent with the Fixed Principles and the LTIE. This framework has been subject to independent expert review and verification by KPMG.<sup>4</sup>

The expert report of Mr Jeff Balchin (Appendix 2) provides an analysis of the relative merits of the two alternative allocation frameworks identified by the ACCC in its Discussion Paper. Mr Balchin concludes that:<sup>5</sup>

<sup>4</sup> KPMG, *Review of Telstra's Cost Allocation Methodology*, July 2014 (provided to the ACCC on 4 July 2014).

<sup>5</sup> Incenta Economic Consulting, *Cost allocation for fixed line services*, October 2014, pp 3-4 (Appendix 2).

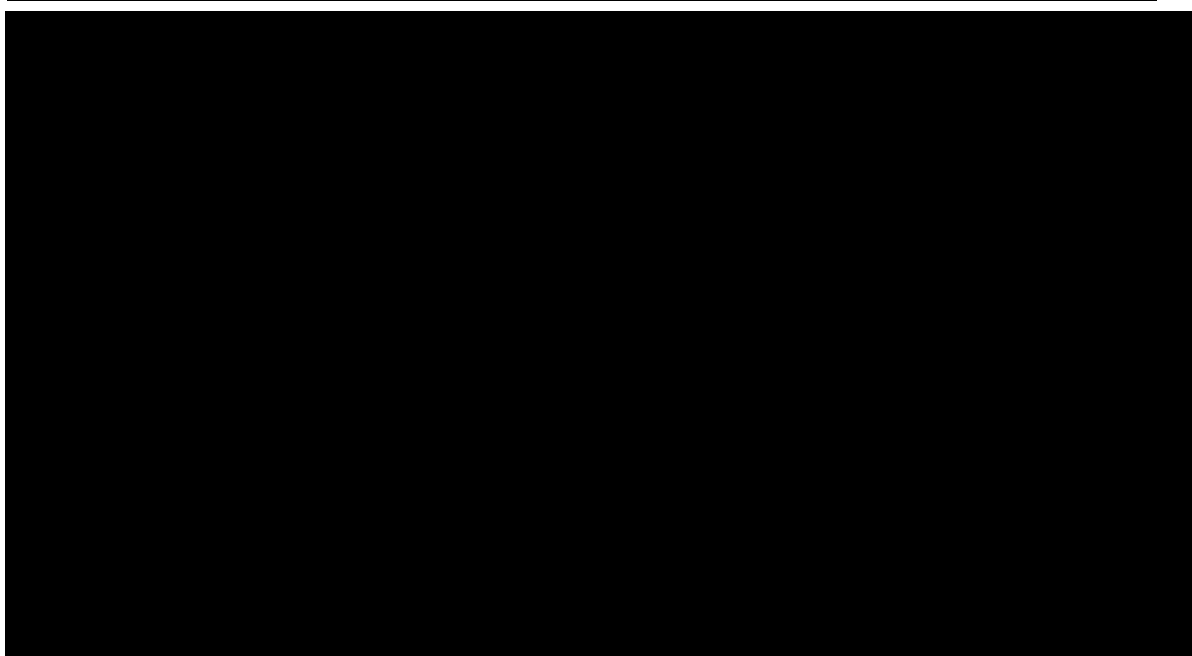


*“The “partially allocated cost” approach is plainly inconsistent with the “fixed principles” that are set out in clause 6 of the 2011 Final Access Determination and also inconsistent with the objectives of the objects clause for the Part XIC regime.*

*In contrast... the “full allocation” approach reflects a conventional application of the cost allocation step whereby allocators are chosen and applied such that the asset owner expects to recover the shared costs. This is consistent with the application of the “building block” model of regulation and with the use of the RAB that is calculated in the manner that is prescribed in the fixed principles.”*

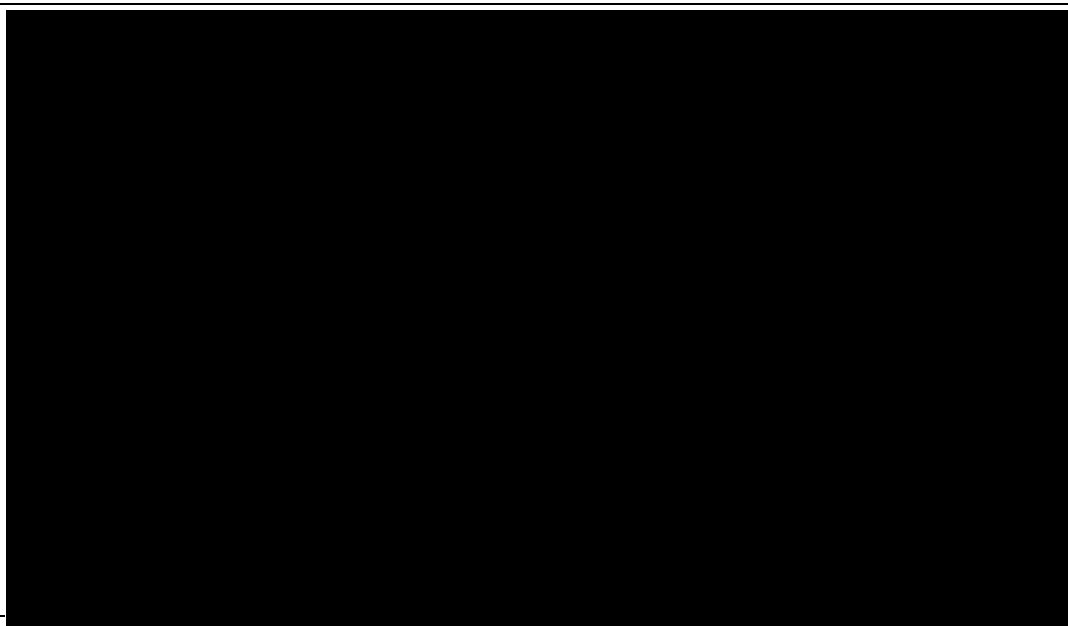
Implementing the fully allocated cost framework will result in allocation of costs to the regulated fixed line services decreasing between FY2015 and FY2019, with allocation of costs to other services and users of the network (including NBN Co) increasing (Figure 8). This is due to expected changes in the relative usage of the fixed line network assets, and in particular, increasing use of these assets by NBN Co.

**Figure 8: Forecast Allocation of Costs, NBN Rollout Base Case (\$FY2009)**



As a result of the cost allocation process, the revenue requirement allocated to the regulated fixed line services will decrease over the next five years. As set out in Figure 9, under the NBN Rollout Base Case Scenario the revenue requirement allocated to these services will decrease by ██████ in real terms by FY2019.

**Figure 9: Forecast Revenue Requirement, allocated to regulated fixed line services, NBN Rollout Base Case (\$FY2014)**



## Price terms



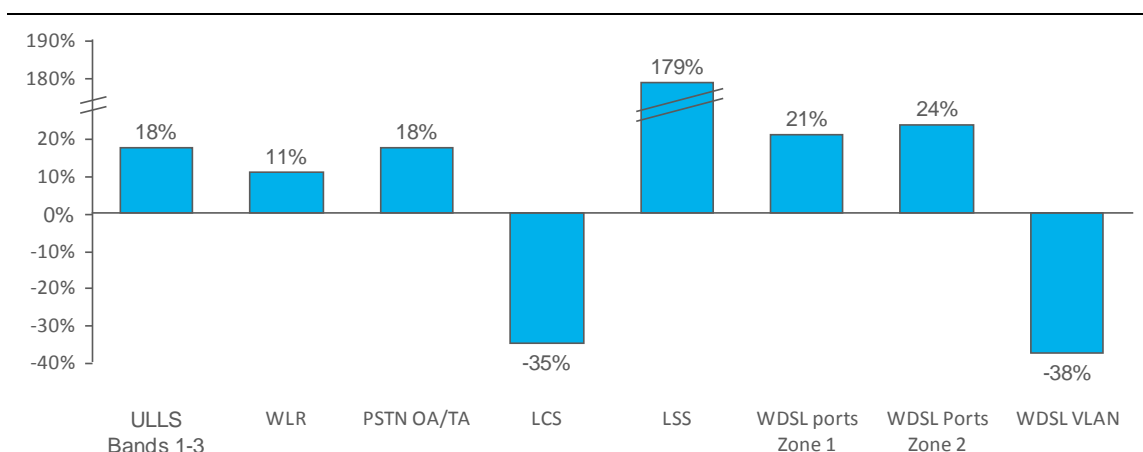
Once the revenue requirement has been allocated to the regulated fixed line services, and other services using the fixed line network, service prices can be calculated. Service prices must be set so that – based on forecast demand – Telstra will have the opportunity to recover the revenue requirement allocated to the regulated fixed line services.

In order to provide Telstra with a reasonable opportunity to recover its costs, and ensure Telstra Wholesale end-users and Telstra Retail customers bear a proportional burden in recovering costs, nominal prices for the regulated fixed line services will have to increase from current levels. Simply put, the expected decline in demand for fixed line services will exceed the contemporaneous reduction in the costs of operating the fixed line services network and the revenue requirement allocated to the fixed line services.

Another reason for the moderate increase in nominal service prices is that adjustments are required to the FLSM to account for previous errors, and to ensure consistency with the Fixed Principles. This has included adjustments to the cost allocation framework in the FLSM, to ensure that there is a fair allocation of costs between all users of the network.

Based on a simple application of the FLSM and its approach to setting service prices, under the NBN Rollout Base Case regulated service prices could change dramatically from current levels (Figure 10). These changes would be required to provide Telstra with the opportunity to recover its costs – however the potential impact of these changes could negatively impact the market for fixed line services, and impair the successful migration to the NBN.

Figure 10: Potential price changes under NBN Rollout Base Case, no stability



In order to provide Telstra with a reasonable opportunity to recover costs, but also minimise the risk to the NBN migration and avoid potential disruption in the market for fixed line services, Telstra is proposing that the FAD implement the required price increase as a once-off, nominal and uniform adjustment to the service prices.

Based on the NBN Rollout Base Case, this would require a once-off 7.2% increase to nominal prices for each of the declared fixed line services, to take effect from the commencement of FY2016. These prices would then be fixed until the end of the regulatory period (proposed to be July 2019). The prices that would result from a 7.2% increase are set out in Table 2 below.

Table 2: Potential prices for declared fixed line services – NBN Rollout Base Case Scenario

Service	Current price	Price for next regulatory period under a 7.2% equi-proportional change
ULLS (bands 1-3)	\$16.21 / service / month	\$17.37 / service / month
ULLS (band 4)	\$48.19 / service / month	\$51.64 / service / month
WLR	\$22.84 / service / month	\$24.47 / service / month
PSTN OA / TA	0.95 cents / minute	1.02 cents / minute
LCS	8.9 cents / call	9.54 cents / call
LSS	\$1.80 / service / month	\$1.93 / service / month
WADSL ports (Zone 1)	\$24.44 / port / month	\$26.19 / port / month
WADSL ports (Zone 2)	\$29.66 / port / month	\$31.78 / port / month
WDSL VLAN	\$32.31 / Mbps / month	\$34.62 / Mbps / month

For the purposes of the indicative price calculations above, Telstra has effectively assumed a five-year regulatory period. That is, the indicative price calculation is based on the estimated revenue requirement for the five-year period from 1 July 2014 to 30 June 2019, with a one-off price adjustment for FY16 calculated so that this revenue requirement can be recovered over the five-year period, assuming current prices remain in place for FY2015. Depending on when the

replacement FADs are made and the term that is determined by the ACCC, this approach to calculating the price adjustment may need to be revisited.

Importantly, by adjusting prices based on a once-off nominal increase, this required increase in prices is likely to be less than the forecast rate of inflation over the regulatory period, meaning that under Telstra's proposal, prices for each of the declared fixed line services can be expected to be lower in FY2019 than they are today, in real terms.

Telstra's proposed approach is consistent with the Fixed Principles while minimising the impact on real prices over the forthcoming regulatory period. Further, as prices will increase uniformly across all of the declared fixed line services, price relativities will remain unchanged. This will reduce the risk of major pre-NBN migration between substitutable regulated services, which would likely disrupt and slow the migration to the NBN.

Therefore, Telstra believes that it is possible for the ACCC to set prices that are consistent with the Fixed Principles, the LTIE and the desire for stability, certainty and consistency expressed by the Ministers for Communications and Finance in their early submission to the ACCC.

## A. Structure of submission

Telstra's submissions in response to the Discussion Paper are structured as follows:

- i. Part B sets out the introduction to Telstra's specific submissions, including an introduction to the approach to be taken in determining fixed line services prices and the impact of the NBN rollout on FLSM inputs.
- ii. Part C sets out Telstra's submissions on key BBM inputs, including its submissions on the opening RAB, forecasting approach, operating expenditure and capital expenditure forecasts, asset disposals, regulatory depreciation, return on capital and taxation allowance.
- iii. Part D sets out Telstra's indicative calculation of the BBM revenue requirement, based on current expectations of NBN rollout.
- iv. Part E sets out Telstra's submissions on allocation of costs.
- v. Part F sets out Telstra's submissions on price structures and the approach to determination of prices.

There are also a number of appendices to Telstra's submission:

- Appendix 1 is Telstra's specific responses to the ACCC questions in the Discussion Paper.
- Appendix 2 is an expert report by Jeff Balchin in relation to the approach to allocation of costs.
- Appendix 3 is the Forecast Model developed by Telstra to forecast demand and expenditure requirements for the fixed line services.
- Appendix 4 is the Forecast Model Documentation.
- Appendix 5 is an expert report by Mike Smart on the Forecast Model.

## B. INTRODUCTION

### 1. Assessment Framework

The ACCC has commenced an inquiry into making FADs for the seven declared fixed line services – the ULLS, LSS, WLR, LCS, FOAS, FTAS and WDSL. The FADs to be made by the ACCC at the conclusion of its inquiry will replace the existing FADs for these services.

In making a FAD, the ACCC must take into account the mandatory considerations set out in ss 152BCA(1) of the *Competition and Consumer Act 2010 (CCA)* and any other relevant considerations that are mandatory by implication from the subject matter, scope and purpose of Part XIC of the CCA.

Further, as the ACCC will be making replacement FADs, the new FADs must incorporate those aspects of the existing FADs which were locked in as Fixed Principles.

#### 1.1 Fixed principles

##### 1.1.1 Legislative framework

The ACCC may include in an access determination a provision that is specified to be a fixed principles provision (section 152BCD).<sup>6</sup> The result of a fixed principle is that any subsequent access determination that replaces the original access determination must include a fixed principles provision in the same terms as the fixed principles provision in the original access determination. In addition, the nominal expiry date of the fixed principles provision in the replacement access determination must be the same as or later than the nominal expiry date of the fixed principles provision in the original access determination.

The effect of specifying that a provision is a fixed principles provision is to “lock in” the matters dealt with in that provision until a particular date (the nominal termination date) which can occur after the expiry date of the access determination in which the fixed principles provision appears.<sup>7</sup> In effect, certain matters can be determined for a period that is longer than the term of the access determination in which the fixed principles provision appears.

The effect of “locking in” the fixed principles provision in an access determination (and subsequent replacement access determinations) is achieved by ss152BCD(5), which provides that an access determination which includes a fixed principles provision must include a provision that either (i) states that the fixed principles provision must not be altered or removed or (ii) sets out the circumstances in which the fixed principles provision can be altered or removed. Hence, the ACCC cannot vary or replace an access determination in a manner inconsistent with the entrenching provision, nor can it remove the entrenching provision.

As noted in the explanatory memorandum to the Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2010 which introduced the revised Part XIC in 2011:<sup>8</sup>

*“By enabling the ACCC to lock in provisions contained in an access determination for a specified period (which may be longer than the duration of the access determination in which the provisions are contained), proposed section 152BCD **will enable the ACCC to provide greater regulatory certainty in certain circumstances.** For example, where the ACCC adopts a utility pricing model for setting the access price for a declared service - with all price determinations during the economic life of the relevant facility based on a regulated asset base - the ACCC will be able to lock in a regulated asset base for the requisite period.”* (Emphasis added).

<sup>6</sup> CCA, s 152BCD.

<sup>7</sup> Explanatory Memorandum, Telecommunications Legislation Amendment (Competition and Consumer Safeguards) Bill 2010, 179.

<sup>8</sup> Ibid.

### 1.1.2 Fixed principles in fixed line services FAD

The 2011 FADs for the declared fixed line services included fixed principles provisions to apply for a ten year period with a nominal termination date on 30 June 2021 (the **Fixed Principles**). This was intended to give the industry pricing certainty during the transition to the NBN. In its Final Decision for the 2011 FADs, the ACCC noted that:<sup>9</sup>

*“Setting fixed principles provisions can promote regulatory certainty, including certainty over time about the framework used to estimate access prices. They may also provide greater price stability.”*

The Fixed Principles contained in the current FADs for the seven declared fixed line services lock in key elements of the pricing framework and provide the industry with certainty over time about how the ACCC will estimate prices for these services.

Specifically, the Fixed Principles lock in the methodology to be applied in determining prices for the declared fixed line services and establish principles to be applied in determining inputs into this methodology. The Fixed Principles lock in:

- the initial value of the RAB and tax asset base (**TAB**), as at 1 July 2011;
- the method to be applied in rolling forward the RAB, with only certain specified adjustments to be made between regulatory periods;
- the method to be applied in calculating the annual revenue requirement, as the sum of specific cost building blocks;
- principles to be applied in determining forecasts of capital and operating expenditure and demand;
- models and methods to be applied in estimating the return on capital and tax liabilities; and
- factors to be applied in allocating costs.

Thus, the Fixed Principles specify the pricing methodology that is to be adopted, and constrain the way in which inputs into this methodology may be adjusted between regulatory periods. For example, while the RAB may be adjusted between periods, it may only be adjusted in the manner allowed by the Fixed Principles. Similarly, while expenditure forecasts may be adjusted between periods, this may only be done to ensure that the forecasts reflect prudent and efficient costs.

One of the key reasons given by the ACCC for moving to a building block methodology, and locking in this methodology through the Fixed Principles, was that it would provide greater certainty for the access provider and access seekers.<sup>10</sup> The ACCC noted in particular that continual revaluation of assets under the previous TSLRIC+ regime had led to ongoing uncertainty over the level of access prices. The ACCC therefore sought to provide longer term certainty by locking in certain matters – including the value of the RAB and the pricing methodology – through the Fixed Principles.

The matters addressed by the Fixed Principles were the subject of a determination by the ACCC in 2011.<sup>11</sup> The ACCC determined that it was in the LTIE to adopt the price-setting methodology that is reflected in the Fixed Principles – i.e. a building block pricing method. Moreover, the ACCC

<sup>9</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, page 127.

<sup>10</sup> ACCC, *Review of the 1997 telecommunications access pricing principles for fixed line services: Draft report*, September 2010, pp 15-18.

<sup>11</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, page 129.



determined that it was in the LTIE to 'lock in' use of this methodology for an initial period of ten years, until June 2021.

Given this, it would not be open to the ACCC to adopt a different pricing methodology in making replacement FADs for the seven declared fixed line services. The pricing methodology was locked in for a period of ten years when the ACCC made the 2011 FADs on the basis that to do so would promote the LTIE.

In effect, matters relating to pricing methodology have already been determined and locked in through the Fixed Principles. The application of the Fixed Principles has, therefore, already been determined to be in the LTIE. It is not open to the ACCC to seek to revisit matters of pricing methodology in making replacement FADs, to the extent that these methodological matters are already addressed by the Fixed Principles.

## 1.2 Statutory criteria

Subsection 152BCA(1) provides that the ACCC *must* take a number of matters into account when making an access determination, including the following matters which are particularly relevant to setting fixed line services primary prices:

- whether the determination will promote the LTIE of carriage services or of services supplied by means of carriage services;
- the legitimate business interests of an access provider who supplies, or is capable of supplying, the declared service, and the provider's investment in facilities used to supply the declared service;
- the direct costs of providing access to the declared service; and
- the interests of all persons who have a right to use the declared service.

Each of these matters is addressed briefly below.

### 1.2.1 Long term interests of end users

Subsection 152BCA(1)(a) requires the ACCC to take into account the promotion of the LTIE, which is the object of Part XIC. Section 152AB provides that in determining whether something promotes the LTIE, regard must be had to whether the thing is likely to result in the achievement of the following three objectives:

- (a) promoting competition in markets for carriage services and services provided by means of carriage services: paragraph 152AB(2)(c) (**competition objective**);
- (b) achieving any-to-any connectivity in relation to carriage services that involve communication between end-users: paragraph 152AB(2)(d); and
- (c) encouraging economically efficient use of, and investment, in the infrastructure by which carriage services and services provided by means of carriage services are supplied, are capable of being supplied or are likely to become capable of being supplied: paragraph 152AB(2)(e) (**investment objective**).

In Appendix C to the Discussion Paper, the ACCC states that:<sup>12</sup>

*"... particular terms and conditions promote the interests of end-users if they are likely to contribute towards the provision of:*

<sup>12</sup> Discussion Paper, p 95.

- *goods and services at lower prices*
- *goods and services of a high quality, and/or*
- *a greater diversity of goods and services.”*

Telstra submits that this interpretation of the LTIE is too simplistic and narrow. The Full Court of the Federal Court has confirmed that each of the three objectives underpinning the LTIE is a mandatory relevant consideration in its own right.<sup>13</sup> In relation to investment, Rares J observed in *Telstra Corporation Limited v ACCC*<sup>14</sup> that competition cannot be promoted, and thus the LTIE may not be attained, if infrastructure investment is not economically feasible for an efficient service provider to make or support. His Honour went on to find that:<sup>15</sup>

*“[B]y dint of s 152AB(2)(e) the interests of end-users may well include that the service provider is not forced to act in a way which for it is economically unjustifiable. Possibly a monopolist may be forced to lower prices or make way for competition under s152AB(2)(e), but not to run the business as a charitable exercise or at a loss.”*

The clear implication of this finding is that the LTIE will not be promoted where the access provider is unable to recover all of the costs of providing access to its infrastructure or where it is obliged to act in a way which is economically unjustifiable. Thus, the LTIE will not be achieved through lower prices if this will lead to the access provider being unable to recoup its costs of supply. Thus, for example, as demand reduces over time in respect of services being provided over the fixed line network, it is essential that the impact of this on the cost of supply per unit is appropriately accounted for in regulated pricing across the services. This ensures that access providers are not forced to act in a way “*which for it is economically unjustifiable*” or which would require it to “*run the business ... at a loss*”, which would be contrary to the investment objective.

Similar observations regarding the LTIE criterion were made by the Australian Competition Tribunal in *Re Seven Network*. In that case, the Tribunal observed that while very low prices may be in the short-term interests of end-users, this may not be in the long-term interests if it deters efficient investment and sustainable service delivery over the longer term.<sup>16</sup>

In general, Telstra considers that the LTIE cannot be promoted unless an access provider has a reasonable opportunity to recover the cost of supplying the regulated services. This implies that lower access prices will not always promote the LTIE. On the contrary, an increase in service prices may be required to promote the LTIE, where this is necessary to ensure a reasonable opportunity for an access provider to recover the costs of supply.

In addition, in order to promote the LTIE in the NBN transition period, it is necessary to ensure that competition is promoted and investment is encouraged through pricing which is stable and certain. Price stability – specifically, the maintenance of price levels and relativities that are broadly consistent with established regulatory rates in real terms – is a key component to promoting innovation and competition (and hence the LTIE) in the transition to the NBN.

In 2011, Graeme Samuel stated in respect of the 2011 FAD:<sup>17</sup>

*“The ACCC is committed to promoting competition and providing an appropriate level of price stability during the NBN roll-out and subsequent migration of services from the copper network to the NBN.”*

Accordingly, in setting price terms for the next regulatory period, a key focus for the ACCC should be on delivering real price stability for all users of the network and services using the network.

<sup>13</sup> *Telstra Corporation Limited v Australian Competition Tribunal* [2009] FCAFC 23. See in particular at [260-270] per the Court.

<sup>14</sup> [2008] FCA 1758, referring to the equivalent provisions in the Trade Practices Act 1974 (Cth).

<sup>15</sup> *Telstra Corporation Limited v ACCC* [2008] FCA 1758 at [111].

<sup>16</sup> *Re Seven Network Ltd and Another (No 2)* [2004] ACompT 11.

<sup>17</sup> ACCC, Media Release, *ACCC finalises fixed line telecommunications prices and delivers pricing certainty and stability to industry*, 21 July 2011.

### 1.2.2 The legitimate business interests of the access provider, and the carrier's or provider's investment in facilities used to supply the declared service

Subsection 152BCA(1)(b) requires the ACCC to take into account the legitimate business interests of the access provider and its investment in facilities used to supply the declared service. An access provider would not invest in infrastructure if it was unable to achieve a return that recovers all of its costs and enables it to make a return commensurate with the risk involved. It would instead elect to make its investment (and receive a better return on that investment) elsewhere.

Similarly, it is not in the access provider's legitimate business interests to provide services unless it can ensure that the person to whom those services are supplied is able to both pay for those services and pay in a timely manner. The FADs should not allow an access seeker to use an access provider as a credit provider. Rather, an appropriate balance needs to be struck between providing access to services to the access seeker and ensuring that the access provider receives timely payment for those services.

### 1.2.3 Interests of all persons who have a right to use the declared service

This criterion requires consideration of access seekers' interests.

The ACCC claims that "*access seekers' interests would not be served by higher access prices to declared services, as it would inhibit their ability to compete with the access provider in the provision of retail services*".<sup>18</sup> Telstra disagrees with this interpretation of this criterion. It will not be in the interests of access seekers if an access provider is forced to supply below its costs, which would ultimately dampen investment. If ensuring cost recovery means that prices need to increase, then this cannot be said to be contrary to the interests of access seekers – as otherwise, an access provider would be forced to limit its investments and would need to provide a lower quality service. In addition, ensuring that wholesale prices allow for cost recovery will not inhibit access seekers' ability to compete.

### 1.2.4 The direct costs of providing access to the declared service

The direct costs of providing access to a declared service are those incurred (or caused) by the provision of access, and includes the incremental costs of providing access. This is consistent with the judgment of Rares J in *Telstra Corporation Limited v ACCC*.<sup>19</sup> In relation to the costs of complying with a FAD in particular, the criterion in paragraph 152BCA(1)(d) must be read consistently with the ACCC's obligation under paragraph 152BCB(1)(f) of the CCA to refrain from making any determination under which a party would be required to bear an unreasonable amount of the costs associated with extending or enhancing a facility.<sup>20</sup>

It is imperative, both to ensure adherence with the Fixed Principles and to account for this statutory criterion, that Telstra has the opportunity to recover its costs of supply.

## 1.3 Relationship between the statutory criteria and the Fixed Principles

As noted above, in making the replacement FADs, the ACCC will need to take into account both the mandatory statutory criteria and the existing Fixed Principles. In applying both the Fixed Principles and the statutory criteria, the ACCC must bear in mind their respective roles.

As noted above, the role of the Fixed Principles is to 'lock in' the determination of certain matters for an extended period of time. Once the determination of these matters has been locked in, these matters cannot be revisited until the relevant fixed principle expires. In this case, the methodology for setting prices and certain principles to be applied in implementing that methodology have been

<sup>18</sup> Discussion Paper, Appendix C, p 98.

<sup>19</sup> [2008] FCA 1758.

<sup>20</sup> *Telstra Corporation Limited v ACCC* [2008] FCA 1758 at [123].

locked in through the Fixed Principles, and therefore cannot be reopened as part of this FAD inquiry.

On the other hand, the role of the statutory criteria is to guide the ACCC's decision on those matters which are to be determined in a FAD. This will include the determination of certain inputs into the pricing methodology, such as expenditure forecasts and the rate of return. However this will not include the matters already addressed by the Fixed Principles, such as the pricing methodology and RAB value.

#### 1.4 Need for certainty and real price stability

In Telstra's view as the industry transitions off the fixed line network and to the NBN, it is in the interests of all users of the network and the LTIE to ensure real price stability – specifically, the maintenance of price levels and relativities that are broadly consistent with established regulatory rates in real terms.

A pricing approach that creates instability in fixed services pricing has the potential to delay the investment and innovation required for transition to an NBN retail service provider (**RSP**) business model. Under this model, business planning and investment needs to shift towards investment and innovation at the retail level to allow for competitive differentiation regarding, for example, content, applications and technology support. This investment and innovation is important to promoting competition and to the stimulation of NBN migration. NBN Co's new multi-technology mix strategy is intended to substantially accelerate the NBN deployment relative to the rate of progress made to date. The increased speed of NBN Co's network rollout heightens the need for other industry players to shift their investment focus away from legacy technologies and onto the RSP model.

In this submission, Telstra proposes an approach to setting price terms that can achieve real price stability, whilst allowing Telstra the opportunity to recover its costs of supply (refer to section 20 below). Real price stability will promote certainty for all industry participants which, in turn, will encourage innovation and investment as access providers, access seekers and end users move to the NBN.

## 2. Setting price terms under the Fixed Principles

### 2.1 Principles of the building block framework (BBM)

Under the Fixed Principles, prices for each of the declared fixed line services are to be calculated using a BBM. The term “building block model” is used to refer to a method of deriving regulated prices that will provide the opportunity for expected costs to be recovered over time, including the deemed cost at the commencement of the application of the regime (the initial RAB). The BBM is a widely used tool for calculation of revenue and price caps and pricing for regulated businesses.<sup>21</sup>

The BBM can vary in the way that it is implemented by different regulators and across different industries. However the basic principles underpinning the BBM are well recognised.

At its most basic level, the BBM involves calculation of a revenue allowance for the regulated business by addition of certain cost building blocks. The core building blocks are operating expenditure, a return on capital, a return of capital (depreciation) and tax liabilities.

Where a BBM is being used to calculate a price cap (rather than a simple revenue cap), additional steps will be required to convert the revenue allowance into service prices. This will involve allocating the revenue allowance between services and for each service, dividing required revenue by forecast demand to derive prices.

Whether it is used to determine a revenue cap or a price cap, the basic principle underpinning the BBM is the same. That is, under the BBM, a regulated business can expect to earn sufficient revenue over the long-run to cover prudent and efficient expenditure, and a return on and of its sunk capital.

This basic principle underpinning the BBM was captured by the Office of the Regulator-General of Victoria (**ORG**), in an early application of the model. The ORG stated:<sup>22</sup>

*“The essence of the ‘building block’ approach is that benchmark revenues for the next regulatory period are established with reference to forecasts of operating, capital expenditure and financing costs for an efficiently-operated distribution business. These benchmark revenues will be sufficient to enable efficient distributors to operate and invest in their networks, to service debts and to remunerate shareholders.”*

Similarly, the ACCC has observed:<sup>23</sup>

*“The building block model is primarily a tool to ensure that the regulated firm is adequately compensated in the long-run. Put another way, the building block model is a tool for amortising large expenditures over time. It is a feature of the building block model that, putting aside any rewards or penalties associated with financial incentives, provided the model is consistently applied in the long-term, and provided the regulator correctly estimates the firm’s true cost of capital, the regulated firm will always receive a stream of revenues which is equal, in present value, to the present value of the stream of its expenditures. This result holds true no matter what methodology for depreciation (or path of the regulatory asset base) is chosen.”*

Use of the BBM to calculate prices for the declared fixed line services is required under the Fixed Principles. As discussed below, the Fixed Principles also set out certain principles and rules to be applied in implementing the BBM.

<sup>21</sup> For example: National Electricity Rules (**NER**), clause 6.4.3 (for distribution) / 6A.5.4 (for transmission); National Gas Rules (**NGR**), Rule 76.

<sup>22</sup> Office of the Regulator-General, Victoria, *Electricity Distribution Price Determination 2001-05 – Volume I: Statement of Purpose and Reasons*, September 2000, p 158.

<sup>23</sup> ACCC, *Draft Decision: Statement of Principles for the Regulation of Electricity Transmission Revenue – Background Paper*, 18 August 2004, p 18.

## 2.2 Key Fixed Principles

The Fixed Principles provide certainty around how the BBM will be implemented by establishing a framework for determining BBM inputs and determining prices which is conventional, well understood, and for the most part, relatively mechanical. While there is some scope for a certain amount of discretion and judgement around particular inputs (e.g. judgement as to the prudence of forecast expenditure or the appropriate rate of return), the key processes for valuing and rolling forward the asset base, adding up cost building blocks and allocating costs among users of the network are clearly prescribed and do not permit the exercise of discretion by the ACCC.

Most importantly, the Fixed Principles establish a framework under which Telstra is afforded a reasonable opportunity to recover the cost of supplying the fixed line services, as is conventional under a BBM. The Fixed Principles provide for recovery of the expected costs of operating the fixed line network, across expected demand for services using the network.

Key aspects of the Fixed Principles in this regard are:

- the locked in initial value of the asset base used to supply fixed line services, with no scope for revaluation or *ex post* optimisation of this asset base;
- rules for determining the revenue requirement as the sum of four cost building blocks – the return on capital, the return of capital, operating expenditure and tax liabilities;
- principles for determining key inputs into the BBM, such as capital and operating expenditure forecasts and the rate of return; and
- principles for the fair allocation of the revenue requirement among wholesale and retail customers and other network users, based on relative usage of the fixed line network by various services.

Under the Fixed Principles framework, Telstra has a reasonable opportunity to recover the cost of supplying the fixed line services, over the life of the relevant assets. Specifically, Telstra can expect to recover a return on and of the remaining value of the fixed line assets, in addition to its efficient operating costs and tax liabilities.

As in conventional utility regulation models, the expected costs of operating the fixed line network are to be recovered across expected demand for the services using that network. This implies that where the costs of operating the network are largely fixed and demand for network services is falling, there may need to be some increase in unit prices (at least in nominal terms) in order to ensure a reasonable opportunity to recover network costs.

Further, the Fixed Principles (if properly applied) ensure that cost recovery is fairly borne by all network users (wholesale and retail). The cost allocation principles seek to ensure that no user of the fixed line network (either Telstra retail or access seekers) bears a disproportionate burden for the recovery of network costs.

Thus, if the Fixed Principles are properly applied, the result will be price outcomes that promote the LTIE. By allowing a reasonable opportunity to recover efficient costs, the BBM framework will provide incentives for efficient investment in, and use of, infrastructure. Further, by ensuring fair allocation of costs among network users, the BBM framework will promote efficient competition.

## 2.3 Implementation of the BBM in the FLSM

The BBM approach is applied to calculate prices for each of the declared fixed line services in the FLSM. This broadly involves four steps:

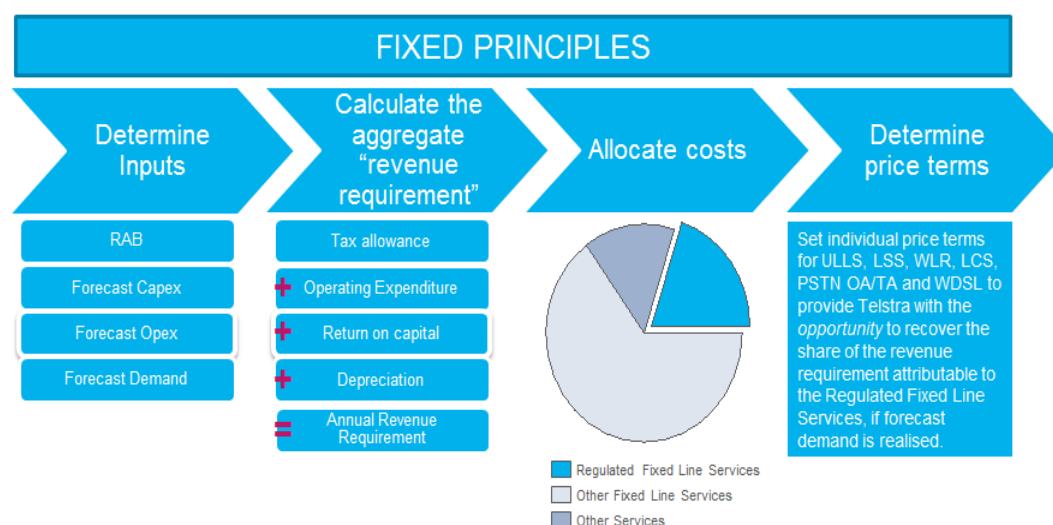
- determination of key inputs, such as expenditure forecasts and the rate of return;



- calculation of the revenue requirement, as the sum of the four cost building blocks – operating expenditure, the return on capital, the return of capital (depreciation) and tax liabilities;
- allocation of the revenue requirement between the services expected to use the fixed line network over the regulatory period, based on their relative usage; and
- calculation of prices for each service to allow for expected recovery of the revenue requirement, by dividing the revenue requirement by expected demand over the regulatory period.

This process is illustrated in Figure 11 below.

Figure 11: Overview of the pricing process



The process for calculation of service prices under a BBM should be designed to equalise (in terms of present values):

- the portion of the revenue requirement for the regulatory period that is allocated to regulated services; and
- forecast revenue from regulated services over the regulatory period, taking into account forecast demand.<sup>24</sup>

This approach is consistent with the approach taken in other regulated industries. Indeed in some regulated industries, the first two steps are entirely separate from the latter steps, and are the subject of separate review and approval processes – for example electricity transmission businesses are required to submit a 'revenue proposal' for each regulatory period which is reviewed by the AER, and are separately required to submit a 'pricing methodology'.<sup>25</sup> In other industries, the regulator's review of the revenue requirement and service prices are undertaken in a single review process, but subject to separate rules.<sup>26</sup>

<sup>24</sup> Equalisation of the revenue requirement with forecast revenue is required under the NGR (Rule 92(2)).

<sup>25</sup> NER, clause 6A.10.1.

<sup>26</sup> For example under the NGR, there are separate rules relating to the determination of "total revenue" (i.e. the revenue requirement) and tariffs. Total revenue is to be determined in accordance with Rule 76, while tariffs are to be determined as a subsequent step in accordance with Rules 92-97.



## 2.4 Allocation of risk under the BBM / FLSM framework

The Fixed Principles can be seen as embodying a long-term commitment by the ACCC to a particular regulatory approach, or alternatively as a long-term 'regulatory contract'. Under this 'regulatory contract', Telstra is entitled to a reasonable opportunity to recover the cost of its sunk investment in the fixed line network, while in return access seekers are entitled to access the network at a price no higher than is necessary to recover this cost.

This is a feature of regulatory arrangements for many infrastructure businesses, as has recently been observed by the Queensland Competition Authority (QCA):<sup>27</sup>

*"The regulation of public utilities can be viewed as a form of long term contract between the monopoly service provider of the essential service or infrastructure and its customers, overseen by an independent third party, the regulator. This long term contract is, in effect, a governance mechanism that functions to protect and incentivise relationship-specific, sunk investment between these parties. Once the investment is sunk, its value to investors depends on receiving an appropriate rate of return on, and of, capital, and its value to customers depends on access to the service at a reasonable price and expected standard of service."*

As under any long-term contract, there is an allocation of risk between the access provider and its customers under the regulatory contract. The way in which risk is allocated between the access provider and customers will depend on the specific design of the regulatory contract.

In a recent research paper, the QCA has noted several features of regulatory design which can impact on the allocation of risk.<sup>28</sup> These include:

- **Price cap vs revenue cap.** Where a price cap is applied, the access provider bears the risk of demand being lower than expected over a regulatory period (i.e. the risk of demand deviating from the *ex ante* forecast). By contrast, under a revenue cap, the access provider does not bear this risk.
- **Under/overs adjustments to expenditure.** In regulatory regimes where revenue allowances are based on *ex ante* forecasts of expenditure, with no adjustment for under or over-spend, the access provider bears the risk of expenditure requirements turning out to be higher than expected. On the other hand, where there is a mechanism for adjusting for under/over-spend, this risk is effectively passed to customers.
- **Cost pass-through mechanisms.** Cost pass through mechanisms can provide further protection for the access provider from the risk of expenditure requirements being higher than expected due to unforeseen events (e.g. natural disasters or changes in regulatory obligations). However where a cost pass through mechanism is not available and there is no *ex post* adjustment for under or over-spend, the risk of higher than expected expenditure requirements is borne by the access provider.

Under the regulatory arrangements which apply to Telstra's fixed line services, Telstra bears a significant amount of risk. As the fixed line services are subject to a price cap rather than revenue cap, Telstra bears the risk of demand being lower than expected over a regulatory period. Further, as there is no unders/overs adjustment to expenditure at the end of each regulatory period, Telstra also bears the operational and commercial risk of expenditure requirements being higher than expected.

In short, Telstra bears both demand and expenditure risk *within regulatory periods*. Once expenditure and demand forecasts have been determined and used to establish service prices for a regulatory period, Telstra bears the risk of either expenditure or demand turning out to be

<sup>27</sup> QCA, *Discussion Paper: Risk and the Form of Regulation*, November 2012, p vi.

<sup>28</sup> QCA, *Discussion Paper: Risk and the Form of Regulation*, November 2012.

different to what was forecast. The lack of an unders/overs adjustment mechanism can compound these risks across regulatory periods for certain cost categories – particularly capital expenditure. As the ACCC is aware, Telstra's actual capital expenditure in FY2011-14 period was significantly higher than the amount forecast at the time the FADs were made for that period (refer to section 9.1 below). As there is no unders/overs adjustment mechanism for capital expenditure, Telstra bears the consequences of its capital expenditure requirements being higher than forecast both within the period in which the overspend occurred (FY2011-14), and in later periods due to the RAB being lower than it would otherwise be.

However, other risks are shared between Telstra and access seekers under the Fixed Principles regulatory framework. In particular, the risk of overall service demand or network expenditure requirements changing over time (i.e. between regulatory periods) is shared between all users of the fixed line network, including Telstra and access seekers. This sharing of risk is facilitated by the Fixed Principles which require that (among other things):

- demand and expenditure forecasts be established at the beginning of each regulatory period and used to determine the revenue requirement and service prices for that period;
- forecast operating and capital expenditure for each period should reflect an assessment of prudent and efficient costs for that period;
- demand forecasts for each period should be based on an appropriate forecasting methodology, on reasonable assumptions about the key drivers of demand, and be determined utilising the best available information and taking into account current demand and economic conditions; and
- once the expected cost of operating the fixed line network for a regulatory period has been determined, the allocation of those costs should reflect the relative usage of the network by various services.

The combined effect of the Fixed Principles is that any reduction in overall service demand between periods, or any increase in costs, is shared between all users of the network, including Telstra and access seekers. In other words, the risk of changes in demand or cost expectations between periods is shared.

### 3. Impact of NBN rollout on FLSM inputs

The transition to the NBN will transform the telecommunications landscape in Australia. During this important transition phase (to FY2019), the interactions between the NBN rollout, demand for services using the fixed line network (including the regulated fixed line services) and the costs of operating the fixed line network will have a significant impact on the calculation of prices for these legacy services.

Prices for the declared fixed line services must be calculated in a manner consistent with the Fixed Principles, meaning that a variable such as the NBN should only be relevant to the extent that it impacts on the cost of supplying fixed line legacy services. This implies that relevant elements of Telstra's DAs with NBN Co and the Government – including the migration of customers to the NBN, the transfer of certain assets to NBN Co (e.g. copper access lines used for the provision of FTTN services) and NBN Co's ongoing use of Telstra network facilities such as ducts and exchange buildings – ought to be taken into account to the extent that they impact on the cost of supply. In addition, Telstra's proposed approach to determining prices (set out in section 20) also provide the industry with stability (seeking to minimise changes to price relativities and to pricing for individual services) thus avoiding price shocks which may impede the successful migration to the NBN, whilst still providing Telstra with a reasonable opportunity to recover its costs.

As explained below, in pursuing such an approach, it is clear that any revenues earned by Telstra from the DAs – including the Migration and Infrastructure Services Agreement (**ISA**) payments – should not be taken into account when setting prices.

In order to appropriately set fixed line services prices taking into account the impact of the NBN, it is necessary to identify the impact of NBN rollout on key FLSM inputs, including:

- forecast demand for fixed line services over the regulatory period;
- forecast operating expenditure and capital expenditure with respect to the fixed line network assets;
- forecast asset disposals (if any) and forecast asset lives; and
- allocation factors that assign estimated annual costs for the relevant fixed line network assets to individual services and users of shared network facilities.

Telstra's approach to each input factor is summarised in 3.1 below and discussed in detail in later sections of this submission.

Over and above these factors, Telstra will also receive payments from NBN Co (Migration and ISA payments) during the transition phase. However these payments are not relevant to the ACCC's consideration of pricing for the fixed line services, for three reasons which are discussed further below:

- First, and fundamentally, these payments do not impact on the cost of supplying the fixed line services and are therefore not relevant to the calculation of service prices under a building block model approach.
- Secondly, the incorporation of these payments would violate the Fixed Principles. For example, accounting for Migration payments through a reduction in the RAB, would imply a revaluation of the fixed line assets and would thus clearly violate the Fixed Principle establishing both the initial value of the RAB and the RAB roll-forward mechanism.
- Finally, taking into account these payments may lead to significant and unjustified reduction in fixed line services pricing, inhibiting the efficient migration to the NBN. This risk has manifested in New Zealand, where a significant reduction in copper access prices risks leading to "sticker shock" for end users (and access seekers) and is threatening the viability

of their NBN policy, a consequence which must be avoided to ensure successful migration to the NBN (this is discussed further in section 20.2 below).

Telstra's proposal for accounting for the impact of NBN is the most appropriate approach and considers all the impacts of the NBN on the basis of their cost and usage impact to the underlying fixed network assets only, thus ensuring prices are set in the LTIE.

This section will outline how the NBN roll out will impact on estimation of price terms, Telstra's proposed solution to accounting for the NBN (including why it is inappropriate to consider Migration and ISA payments made between NBN Co and Telstra) and the importance of price stability in ensuring a successful and efficient NBN transition.

### 3.1 Impact of NBN rollout on key cost inputs

In considering the impact of NBN rollout, the key question is: *"How is NBN rollout likely to impact on the cost of supplying the fixed line services, or demand for those services?"* More specifically, one must consider how each cost building block is likely to be impacted by NBN rollout.

The starting point is therefore to review the current cost of supplying fixed line services, and how this is built up in the FLSM (i.e. the cost building blocks). One then needs to consider how each cost building block might change as customers migrate to NBN. The magnitude and timing of changes to each building block then needs to be forecast based on the best information currently available as to the NBN rollout plan / timetable.

Taking into account the impact of NBN rollout on individual FLSM inputs NBN rollout is likely to impact on the following FLSM inputs:

- Demand – as migration occurs, demand for copper services is expected to decline.
- Capital and operating expenditure – as migration occurs, expenditure requirements associated with legacy copper services is expected to decline (although not necessarily in a linear fashion), while expenditure associated with NBN make-ready works will increase.
- Cost allocation – for certain shared assets and activities, allocation of costs may need to be adjusted to reflect declining usage of those assets/activities by legacy copper services and increasing usage (of some assets) by NBN Co.
- Asset disposals – any decommissioning of copper network infrastructure will need to be accounted for in the FLSM as asset disposals.

Telstra's proposed approach to accounting for the impact of NBN rollout on each of these inputs is summarised in Table 3, and some specific impacts on demand and expenditure forecasts are discussed below.

**Table 3: Telstra's proposed approach to accounting for NBN impacts**

FLSM input	Telstra's approach to accounting for NBN impacts
<b>Demand forecasts</b>	<p>Telstra has developed a Forecast Model which takes into account the expected impact of customer migration on demand for fixed line services based on a given NBN rollout scenario. For the purposes of this submission Telstra has developed a NBN Rollout Base Case Scenario that can be used to illustrate the potential impact of the NBN on demand, expenditures and cost allocations over the forecast period. The Base Case Scenario is based on the best publically available information currently available as to the NBN rollout plan / timetable, and information to date on the rate of service migration in areas where NBN is established.</p>
<b>Expenditure forecasts</b>	<p>Forecast expenditure associated with supply of fixed line services will be impacted by NBN migration in two ways: (a) expected reduction in expenditure requirements associated with legacy services as customers migrate to NBN – i.e. a reduction in those expenditures that are variable with respect to demand; and (b) additional expenditure associated with NBN make-ready works.</p> <p>Telstra has developed a forecast model for fixed line demand and expenditure (the Forecast Model) that sets out in detail the expected relationships between various operating and capital expenditure categories.</p>
<b>Cost allocation</b>	<p>Under a fully allocated cost framework (as required under the Fixed Principles), the change in service demand and network use precipitated by the NBN rollout is expected to impact on cost allocation in two ways: (a) declining usage of common infrastructure by legacy copper services as customers are migrated to NBN; and (b) increasing use of some assets by NBN Co.</p> <p>Telstra has taken each of these impacts into account in designing and updating the cost allocation framework. Cost allocators for shared assets are based on the best available forecasts of demand for legacy copper and other services (including NBN Co's use of shared facilities) over the forthcoming regulatory period.</p>
<b>Asset disposals</b>	<p>Where assets are expected to be decommissioned during the regulatory period, the BBM would treat those assets as being 'disposed of', with their remaining RAB value to be removed from the RAB for pricing purposes at the time of decommissioning. In other words, the remaining cost of those assets would be removed from the cost base, upon decommissioning.</p>

### 3.1.1 NBN impact on forecast demand

Demand for network services will decline significantly as the industry transitions to the NBN. However the timing, rate and (to some extent) geographical and service uniformity of this decline is highly uncertain and directly impacted by the speed of NBN rollout. The impact of the rollout on forecast demand over the FAD period will also vary depending on the rate at which end users voluntarily migrate to the NBN ahead of the Disconnection Date.

The timing of the NBN Rollout is largely a matter for NBN Co. For the purposes of this submission, and in order to set out the key relationships between NBN rollout, demand and expenditure, Telstra has developed a Forecast Model, in which different NBN Rollout Scenarios can be inputted in order to estimate forecast demand and expenditure.

Telstra has developed a “NBN Rollout Base Case Scenario”, which has been used to estimate the changes to the key inputs over the forecast period. Under the NBN Rollout Base Case Scenario:

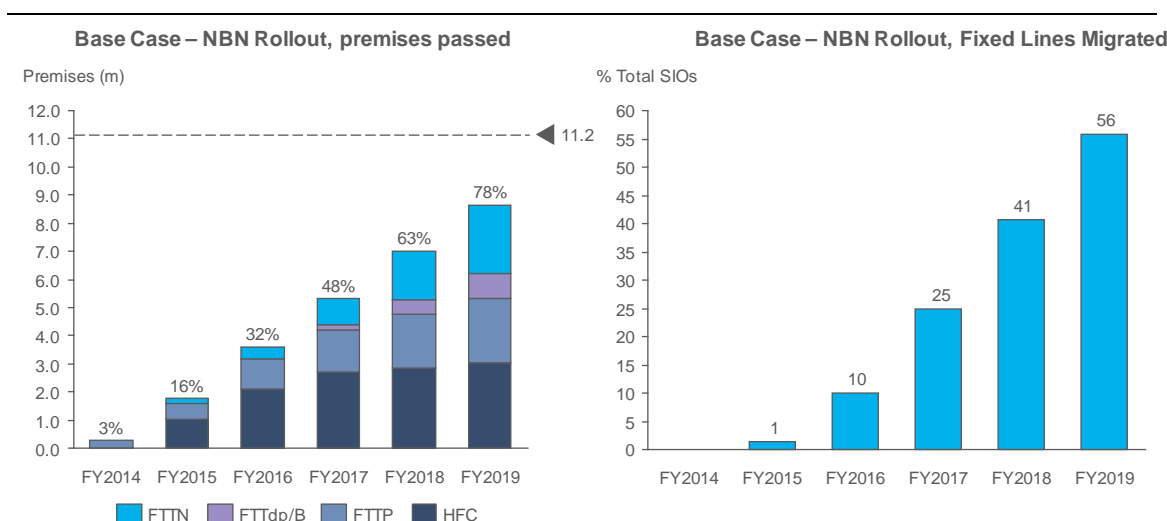
- The NBN is forecast to be rolled out in line with the Scenario 6 optimized mixed technology model (MTM) of the NBN as set out in the NBN Co Strategic Review.
- The rate of migration of end users to the NBN once a premises is passed by NBN Co is set at 55% at 12 months and 100% two years later. That is in a given area, at 12 months past the ready for service date, 55% of premises are assumed to have migrated to the NBN and left the fixed line network, with all premises in the area assumed to have migrated within two years (consistent with the 18 month migration timeframe).

The above assumptions are based on publically available data (in the case of the forecast rollout rate) and limited information available to date for the first fifteen FSAMs that have completed migration.

The Base Case Scenario is not Telstra’s “best view” of the NBN rollout – it is in effect a reasonable placeholder that enables the ACCC and other parties to understand the relativities and responsiveness of fixed line services demand and costs over the forecast period. Telstra expects that better information on both the rollout rate and the rate of migration will be available to the ACCC in the course of this inquiry. The Forecast Model will enable the ACCC to update the rollout scenario in order to set fixed line services prices.

Figure 12 illustrates the forecast rollout of the NBN (in terms of premises passed) and the rate of customer migration from the fixed line network to the NBN under the Base Case Scenario.

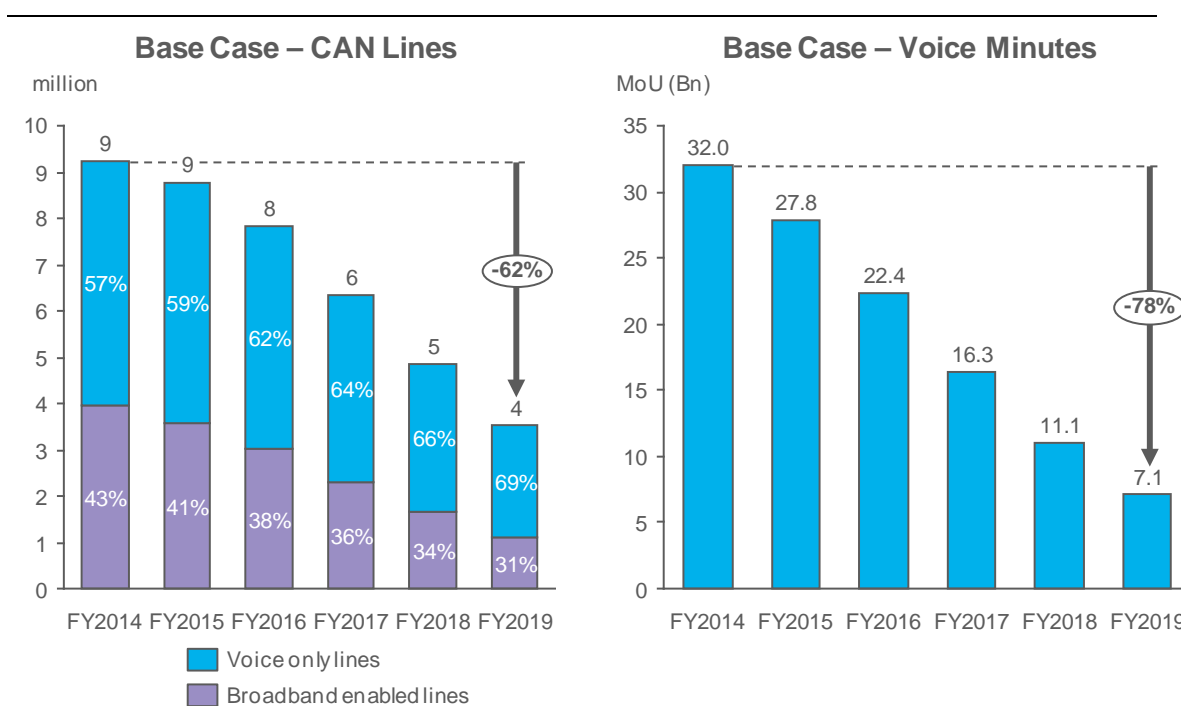
**Figure 12: NBN Rollout Base Case – Premises Passed & Services Migrated, FY2014 to FY2019**



Under the Base Case Scenario, the NBN is expected to pass 78% of its target for brownfield premises by June 2019. Based on this rollout rate, and the assumed migration rate of end users, it is anticipated that 56% of fixed line services in operation will have migrated to the NBN by FY2019.

Under the NBN Rollout Base Case Scenario, the Forecast Model estimates that total fixed line services demand (as measured by the number of active CAN lines) will decrease by 62% between FY2014 and FY2019 (Figure 13). The number of access services is forecast to not only be impacted by NBN transition, but also by the well-established trend of fixed to mobile migration – particularly for end users with voice only services. This trend is emphasised in the forecast relative change in the proportion of voice only lines compared to broadband enabled lines over the forecast period, as well as the fact that fixed line services voice minutes are forecast to decline at a greater rate than for CAN Lines.

Figure 13: Forecast fixed line services demand – NBN Rollout Base Case



Telstra's approach to forecasting demand for the fixed line services, taking into account the impact of NBN rollout, is discussed in greater detail in section 6 below.

### 3.1.2 NBN impact on fixed line network expenditure

The NBN rollout will impact on fixed line operating and capital expenditure in two clear ways. First, in aggregate the operating and capital expenditures relevant to the fixed line assets will decrease in response to the NBN rollout's impact on demand for the network. Second, the NBN rollout itself will directly impact certain expenditures and relevant costs.

#### *Broad changes in expenditure and the aggregate revenue requirement due to the NBN rollout*

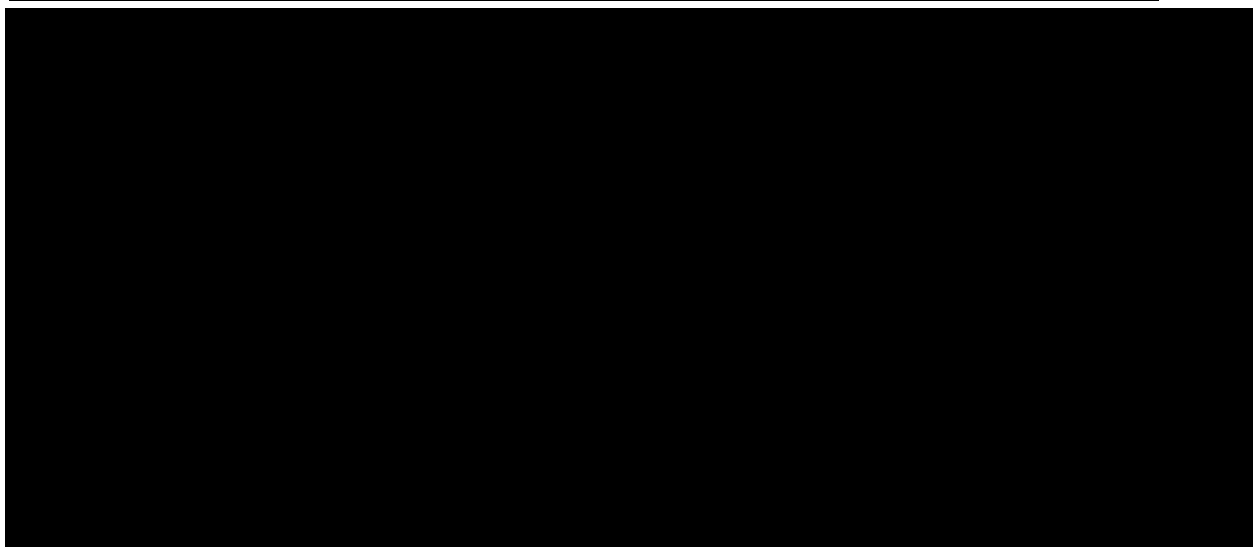
Although the relationship between NBN rollout, fixed line services demand and costs is complex and the impact of the NBN highly uncertain, some things are clear:

- both demand and costs will decline over the forecast period; and
- demand will be more directly and significantly impacted than costs and will decline at a greater rate.

As set out in Figure 14, under the NBN Rollout Base Case Scenario, in which demand is anticipated to fall by up to 62% for fixed line access services, relevant operating expenditure is forecast to decline by [REDACTED] in real terms, with capital expenditure expected to fall by [REDACTED] in real terms by FY2019. The fact that costs are less elastic than demand with respect to the NBN rollout is not unexpected and reflects the fact that many relevant categories of costs are either invariant to demand or exhibit less than unitary (or proportional) elasticity (see further sections 7 and 8 below)

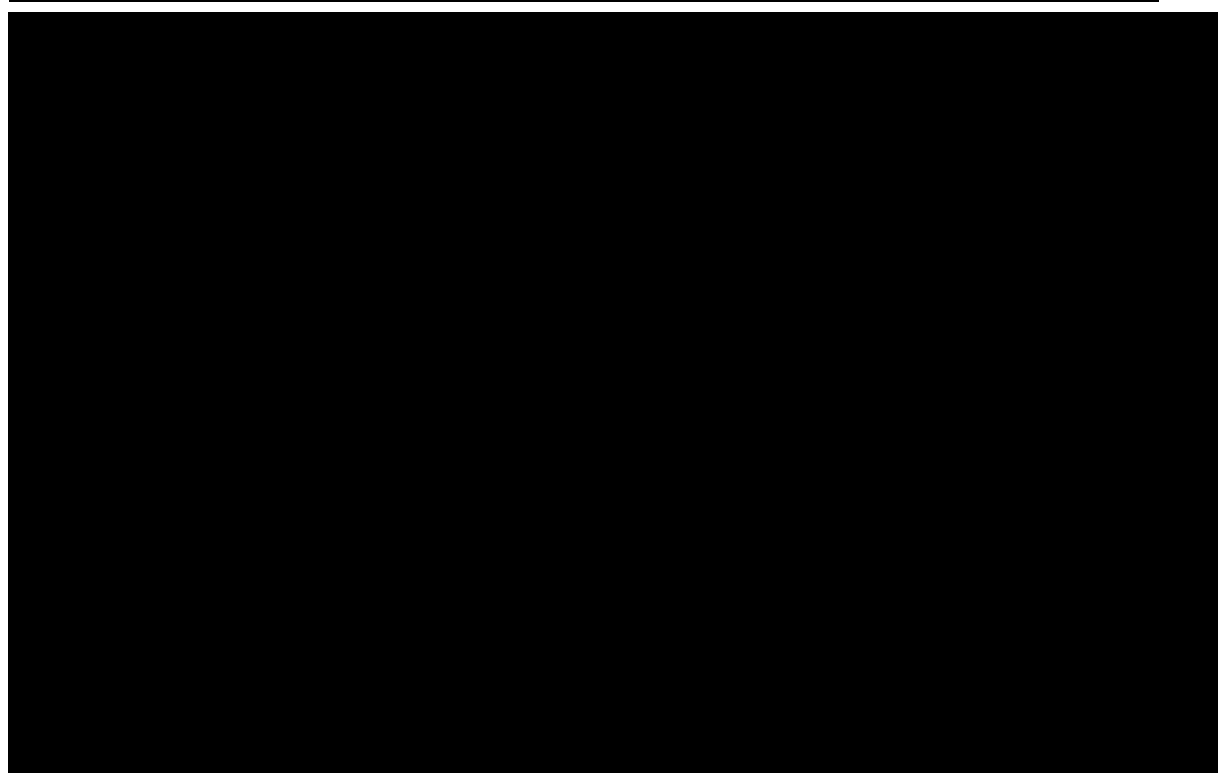


**Figure 14: Forecast Operating and Capital Expenditure, NBN Rollout Base Case (\$FY2014)**



Translating input costs to the overall revenue requirement also shows the significance of the NBN rollout in driving aggregate cost reductions for the fixed line network (reducing the revenue requirement that must be recovered from users of the network). Figure 15 below shows the breakdown of the cost building blocks over the next regulatory period. While there is expected to be a decline in the overall revenue requirement of over [REDACTED] in real terms between FY2015 and FY2019, some cost building blocks are expected to decline more than others. Telstra's proposed approach to accounting for the impact of NBN rollout on each BBM input is addressed in detail in the later sections of this submission dealing with those inputs.

**Figure 15: Forecast building block costs, NBN Rollout Base Case Scenario, FY2015 – FY2019**

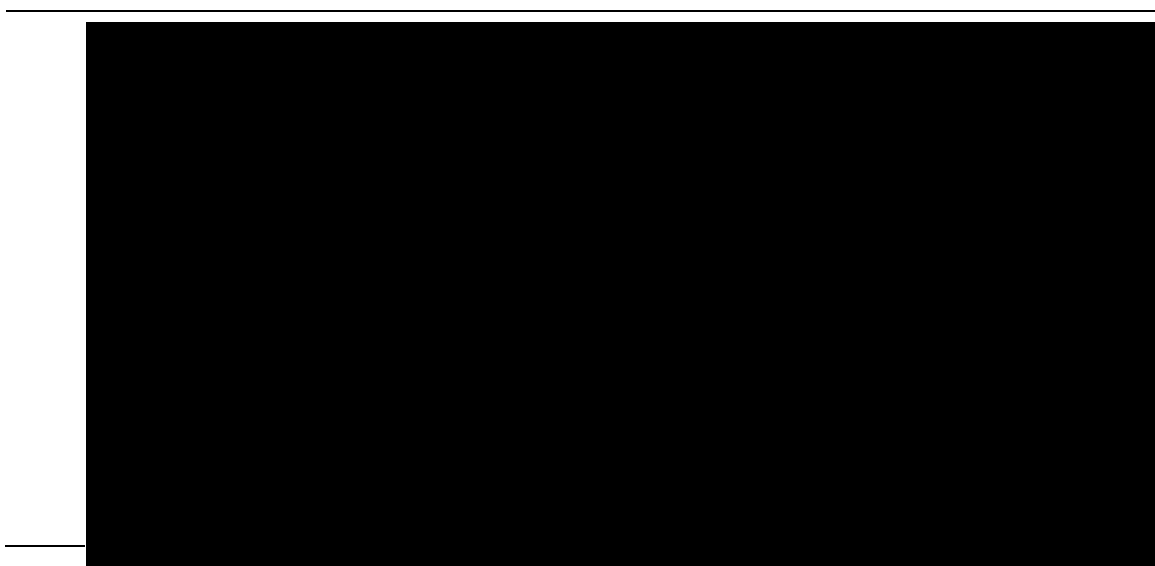


*Specific changes in expenditure and the aggregate revenue requirement due to the NBN Rollout*

In addition to the broad impact that the NBN rollout will have on expenditure (as Telstra's costs adjust to changes in network demand), the NBN rollout will have specific impact on costs and the aggregate revenue requirement. First, Telstra will be required to incur additional capital and operational expenditure than would otherwise be the case to facilitate NBN Co's use of shared network assets – particularly the duct network and exchange building assets. Second, to the extent FTTN results in the disposal of assets from the RAB (e.g. transfer of copper assets to NBN Co), then this will reduce the value of the RAB and reduce capital costs in the aggregate revenue requirement.

Under the NBN Rollout Base Case, Telstra expects to be required to spend an average of [REDACTED] in incremental capital expenditure between FY2014 and FY2019 (Figure 16).

**Figure 16: Forecast capital expenditure on asset remediation, NBN Rollout Base Case (\$FY2014)**

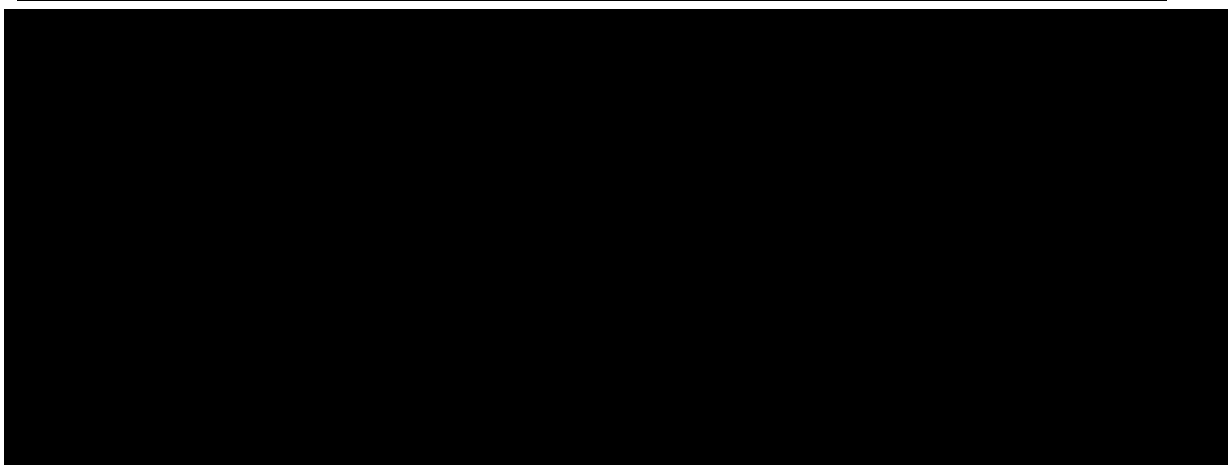


The increase in capital expenditure due to the remediation of assets will necessarily increase the revenue requirement compared to the case if this expenditure was not incurred. However, this expenditure is necessary for NBN Co's use of these assets, which in turn impacts on the allocation of costs with respect to these assets among different users of the network. As explained below, the reduction in the relevant revenue requirement allocated to fixed line services (including the regulated fixed line services) due to NBN Co's forecast use of the duct network more than offsets this increase in total costs (see further section 3.1.3 below).

Costs – specifically capital costs – will also be impacted by the NBN rollout to the extent certain assets are transferred from Telstra to NBN Co. To the extent the MTM NBN Rollout makes use of FTTN, fixed line copper assets will be transferred (or disposed) from the RAB. This will reduce capital costs as the transfer of assets reduces the value of the RAB – reducing depreciation and return on capital.

Under the NBN Rollout Base Case, NBN Co is expected to pass over 2.4 million premises with FTTN-based services by FY2019. Telstra's Forecast Model demonstrates that as FTTN is rolled out, the value of the RAB will be reduced in proportion to percentage of active copper services covered by the FTTN rollout in that year. Under the Base Case, this will translate to a [REDACTED] (FY2009) reduction in the value of the copper assets over the five-year period (Figure 17).

**Figure 17: Forecast capital expenditure on asset remediation, NBN Rollout Base Case (\$FY2014)**



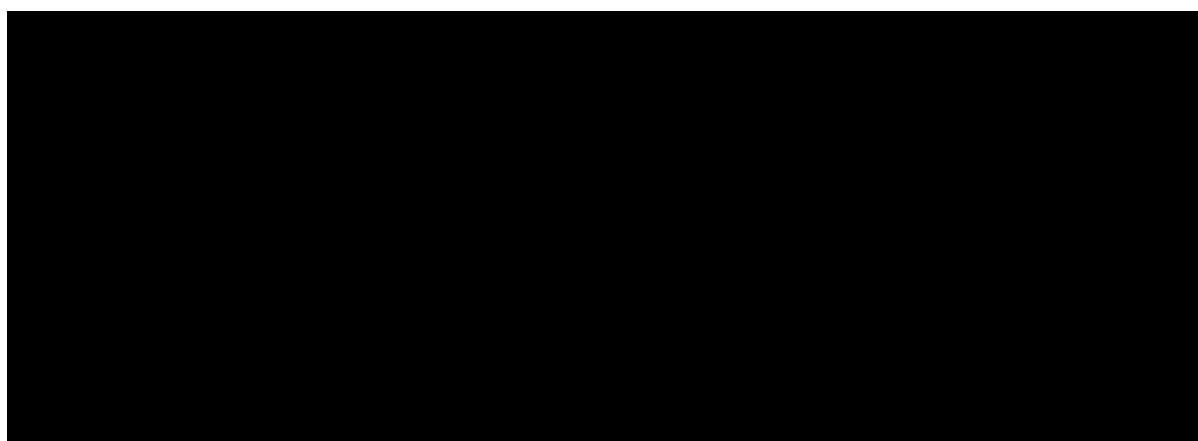
The transfer of assets from the RAB for use in providing FTTN is expected to reduce capital costs (return on capital and depreciation) by [REDACTED] over the regulatory period.

### **3.1.3 NBN impact on the allocation of fixed line network expenditure**

In addition to driving changes in network demand and network expenditure, the NBN rollout will impact on the relative allocation of costs between different services using the network. In part the change in cost allocation will be the result of the drop in fixed services demand and use of common (core) assets, compared to other services (such as mobiles). However, the allocation of costs will also be directly impacted by taking into account NBN Co's greater use of network facilities over the regulatory period.

Over the period FY2015 to FY2019, the allocation of costs to non-fixed line services (including NBN Co's use of the network) will increase – in particular with respect to CAN Assets (Figure 39).

**Figure 18: Changes in allocation of revenue requirement to services, NBN Rollout Base Case (\$FY2014)**

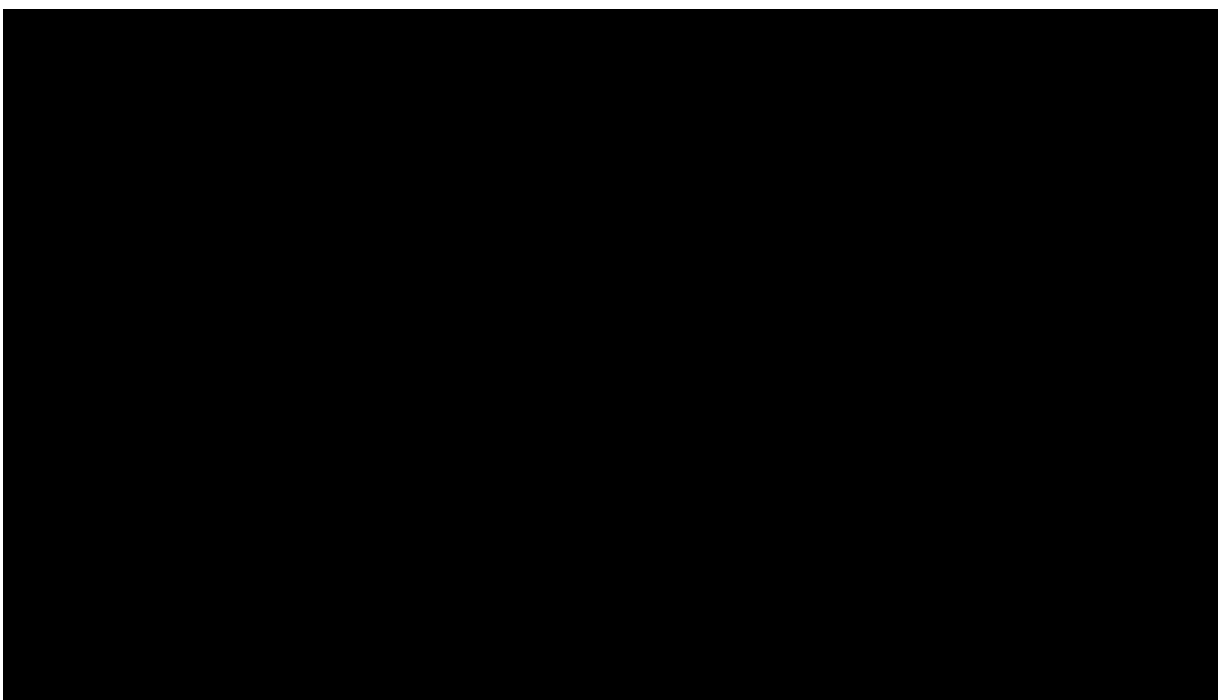


Telstra's Forecast Model (in conjunction with the Cost Allocation Framework) explicitly forecasts NBN Co's own use of fixed line network infrastructure over the regulatory period. The fully allocated cost framework ensures that as NBN Co's use of the network increases, the allocation of relevant asset costs to the fixed line services (including the regulated fixed line services) will decrease.

This can best be illustrated by examining NBN Co's forecast use of the duct network and the resulting impact on the allocation of duct costs under the fully allocated cost framework. Under the

NBN Rollout Base Case Scenario, NBN Co is forecast to use [REDACTED] (including anticipated use associated with the provision of NBN using FTTN, FTTP and HFC technologies) within Telstra's duct network by June FY2019. The growth in NBN Co's use of the network will be a major contributor to the forecast reduction in the revenue requirement for the duct assets allocated to the fixed line services (including the regulated fixed line services) (Figure 19).

**Figure 19: NBN Co's use of the duct network and impact on cost allocation, NBN Rollout Base Case (\$FY2014)<sup>29</sup>**



### 3.2 Addressing uncertainty around NBN impacts

The recent changes to the NBN deployment model and the re-assessment of the rollout schedule by NBN Co have increased uncertainty with respect to the rollout. This greater uncertainty has necessitated a change to the approach Telstra has used in forecasting demand, operating expenditure and capital expenditure over the regulatory period.

Telstra considers that this uncertainty needs to be taken into account and appropriately addressed in the way in which service prices are determined.

Telstra notes that in other regulated industries, mechanisms are available for addressing uncertainty around BBM inputs. These include:

- *ex post* revenue true-up;<sup>30</sup>
- *ex post* expenditure true up;<sup>31</sup>

<sup>29</sup> Note: the large drop in the aggregate revenue requirement for Duct Assets between FY2014 and FY2015 (as calculated by the FLSM) reflects Telstra's more conservative assessment of relevant costs attributable to the duct network for FY2015 onwards compared to the values previously used in the ACCC's cost model.

<sup>30</sup> In some regulated industries where businesses are subject to a revenue cap, there is allowance for *ex post* true up for any under- or over-recovery of revenue relative to the *ex ante* revenue allowance. For example, for electricity transmission businesses, the revenue true-up is effected through an adjustment to the annual service revenue requirement for any under-recovery amount or over-recovery amount from a previous year (NER, clause 6A.23.3(c)(2)(iii)). This true up mechanism effectively protects the business from the risk of actual revenue being less than the *ex ante* allowance, due to demand being less than expected (and conversely, any benefit of demand being higher than forecast is removed).

- contingencies;<sup>32</sup> and/or
- cost pass-through.<sup>33</sup>

However under the Fixed Principles, none of these mechanisms are available. The Fixed Principles do not provide *ex post* true-up of expenditure or demand, nor do they allow for 're-opening' of the price cap to account for cost pass-through or contingencies.

Telstra has therefore developed a methodology for forecasting fixed line network expenditure requirements and service demand which is flexible enough to accommodate changes in the NBN rollout plan or migration timetable. As explained in section 5 and Appendix 4 Telstra has developed an integrated forecasting and pricing model which can be updated if the rollout timetable changes. The Forecast Model also allows for testing of model outcomes based on alternative NBN rollout scenarios. Thus, the impact of uncertainty around the rollout timetable can be readily observed.

The major benefit that the Forecast Model brings to the FAD Inquiry process is that by establishing clearly the relationships between the NBN rollout, demand, operating expenditure and capital expenditure, then as better information becomes available on the likely NBN rollout schedule (e.g. following the release of NBN Co's next Corporate Plan), then the model can be readily updated to provide internally consistent forecasts for demand and expenditure, as well as testing the impact of deviations from updated NBN rollout forecasts, to assist the ACCC in making the FADs.

### 3.3 NBN payments

The preceding sections have identified those aspects of NBN rollout which are relevant to determining prices for the fixed line services – i.e. those aspects of NBN rollout which impact on the cost of supplying the fixed line services or demand for those services.

In Telstra's view, other aspects of the commercial or regulatory frameworks associated with NBN rollout which do not impact on demand for legacy services or the cost of supply are irrelevant.

In particular, the amount of any payments received (or expected to be received) by Telstra under commercial agreements with NBN Co are entirely irrelevant. The amount of these payments does not reflect a cost of supplying the fixed line services, nor does it reflect the amount by which the cost of supply changes at the time of migration. These payments are part of a commercial agreement between Telstra and NBN Co covering a range of matters.

Further, as discussed below, taking into account any payments received by Telstra from NBN Co would be directly inconsistent with the Fixed Principles. The Fixed Principles establish a cost-based pricing framework, under which service prices are established based on a set of well-defined cost building blocks. The Fixed Principles do not allow for 'netting off' revenue from particular sources, in order to reduce the amount of costs which may be recovered.

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<sup>31</sup> In many regulated industries, there is at least an *ex post* true for capital expenditure (*ex post* true up for operating expenditure is less common). For example under both the NER and the NGR, the asset base is trued up at the beginning of each period for actual capital expenditure undertaken in the previous period, subject to limited *ex post* review of actual capital expenditure (NER, clause S6.2.1(e) / S6A.2.1(f); NGR, Rule 77(2)). An *ex post* expenditure true up means that and under- or over-spend relative to forecast, or changes to timing of expenditure, would be corrected for at the end of the period.

<sup>32</sup> To the extent that there is uncertainty around whether and when certain expenditure adjustments will be required (e.g. due to uncertainty around future demand), some regulatory regimes allow this to be addressed by making those adjustments contingent on certain 'trigger events' occurring. For example, 'contingent projects' are allowed for under the NER (clause 6.6A / 6A.8). These projects can be separately identified along with specific trigger events in a business' revenue proposal.

<sup>33</sup> Cost pass-through mechanisms are frequently used in other regulated industries, to allow direct pass-through of cost increases or reductions associated with unforeseen events (for example: NER, clause 6.6.1 / 6A.7.3).

### 3.3.1 Treatment of payments made by NBN Co to Telstra

Telstra's proposed approach to setting fixed line service prices does not take into account revenues earned under the DAs – including the PSAA and ISA payments – simply because these payments have no impact on demand for fixed line services or the cost of supply. These payments are simply not a relevant consideration when assessing the cost of supplying the fixed line services and determining service prices.

As explained below, taking into account revenues earned under the DAs would be inconsistent with the Fixed Principles and a conventional application of the BBM framework. Any adjustment to prices that is based on the amount of payments received from NBN Co would imply adjusting the BBM by an amount that is unrelated to the cost of supplying the fixed line services. The value of NBN payments does not reflect a cost of supplying the fixed line services, nor does it reflect the amount by which the cost of supply changes at the time of migration. As will be discussed below, these payments reflect a commercial agreement between Telstra and NBN Co covering a range of matters.

#### *Taking into account revenue from NBN Co would be inconsistent with the Fixed Principles*

As noted above (section 2), the Fixed Principles establish a cost-based framework for determining prices for regulated fixed-line services. Under this framework, Telstra is afforded a reasonable opportunity to recover the cost of supplying the fixed line services, as is conventional under a BBM. The Fixed Principles provide for recovery of the expected costs of operating the fixed line network, across expected demand for services using the network.

In the Discussion Paper, the ACCC is seeking views on two approaches (in addition to any other relevant approaches) designed to address the impacts of the NBN, specifically the payments made to Telstra from NBN Co (Migration payments and ISA payments). The approaches are:

- to base any adjustments to reflect the arrangements between Telstra and NBN Co on the values assigned within the FLSM to the underlying assets affected by the arrangements; and
- to base any adjustments to reflect the arrangements between Telstra and NBN Co on the value of the payments made to Telstra by NBN Co.

The first of these approaches is entirely consistent with the Fixed Principles. This approach implies that adjustments will only be made to the BBM where there is a change in the underlying cost of supply. In other words, the BBM is only adjusted to remove the embedded cost of certain assets where those assets no longer contribute to the supply of fixed-line services.

On the other hand, the latter approach is inconsistent with the Fixed Principles, and the cost-based pricing approach prescribed by those Fixed Principles. This latter approach implies adjusting price calculation by an amount that is unrelated to the cost of supplying the fixed-line services.

The Fixed Principles do not permit any adjustment for the value of payments made to Telstra by NBN Co. Under the Fixed Principles, the revenue requirement must be calculated as the sum of four clearly defined cost building blocks, and there is no scope for 'netting off' revenue received from NBN Co as part of this calculation. Similarly, the mechanism for rolling forward the RAB is clearly prescribed, and there is no room for any unspecified adjustment to account for the value of payments received from NBN Co.

As explained below (Box 1), PSAA payments are received by Telstra as end users migrate from the Telstra fixed line (copper) network to the NBN, while ISA payments are received by Telstra for NBN Co's use of Telstra's infrastructure. Broadly speaking, the PSAA payments are compensation to Telstra for entering into the DAs, agreeing to structurally separate and forgo future wholesale revenues as an integrated provider. They are not relevant to the estimation of fixed network costs, or the recovery of these costs.

Moreover taking ISA payments into account would lead to double counting, as a fully allocated cost allocation framework (required under the Fixed Principles) already removes (through the allocation factors) the relevant proportion of costs for assets used by NBN Co when setting regulated service prices (refer to Part E of this submission).

There is no basis to distinguish PSAA and ISA payments from other forms of revenue earned by Telstra (e.g. co-location revenues or investment returns), which are similarly irrelevant to the determination of regulated prices under a cost-based approach. Distinguishing based on quantum of payments alone is unprincipled and inconsistent with the BBM methodology.



### Box 1: The Definitive Agreements explained

The DAs are a set of eight complex inter-related agreements, representing part of an overall “settlement” between the Government, NBN Co and Telstra. These agreements embody the broad terms in exchange for which Telstra will move from being an integrated fixed line operator in direct competition with the NBN (when built) to being an access seeker on NBN Co’s network.

The Financial Heads of Agreement (**FHoA**) and DAs are presently being renegotiated given the changes to NBN policy following the 2013 election but there are expectations that Telstra shareholders will remain “whole.”

The DAs are based on Telstra’s choice between two starkly different worlds. Telstra could retain and supply services on its own fixed copper and cable networks and compete against NBN Co at the infrastructure level, but be excluded from 4G and face some form of functional separation (the compete option). Or, Telstra could co-operate with NBN Co, ‘swap’ reliance on its own fixed network for access services acquired from NBN Co, and be allowed to participate in 4G spectrum and gain more regulatory certainty (co-operate option). The FHoA and associated Government commitments represent the value Telstra considered necessary to make the co-operate option more favourable than the compete option.

The value of the DAs is \$11 billion post tax (June 2010 NPV) value, with \$9 billion being derived from the Subscriber Agreement (**SA**) and ISA with NBN Co. In fulfilment of specified commitments including customer migration to the NBN network, access to specific infrastructure, and network construction required to meet the dark fibre requirements for NBN Co’s transit, NBN Co will pay Telstra a progressive revenue stream. Payments under the agreements are not related to the continued supply of fixed services, maintenance of the fixed network nor do they represent a *de facto* valuation of the CAN.

The SA sets out the terms on which Telstra will progressively disconnect copper services and HFC broadband services and migrate customers to the NBN. Once a rollout region has been declared Ready for Service by NBN Co, a migration period of 18 months will commence, during which Retail Service Providers can place orders for connections of customers to the NBN Fibre Network (which NBN Co will arrange), and retail and wholesale customers can request the disconnection of their Copper Services and HFC Broadband Services in migrating to the NBN.

The ISA sets out the terms on which Telstra will provide long-term access to certain infrastructure and related services to NBN Co in order to facilitate the rollout and operation of the NBN, including providing NBN Co with long term access to dark fibre links, exchange rack spaces and ducts and duct infrastructure. Telstra has also agreed to provide ongoing maintenance and repair of dark fibre links, exchange rack spaces, and ducts and associated duct infrastructure in accordance with agreed service levels.

Fulfilment of its SA obligations will result in the payment of a replacement revenue stream (Migration payments) as Telstra decommissions the copper network and migrates customers from legacy services to the NBN. Performance of obligations under the ISA will result in Telstra being paid new revenue access payments for the use of Telstra’s infrastructure (ISA payments).

### *NBN payments do not represent ‘regulated revenue’*

The Discussion Paper suggests that payments from NBN Co could be treated as ‘regulated revenue’. It is said that because the payments from NBN Co relate to the migration of customers from the fixed line network and the use and sale of fixed line assets—and that the fixed line

network and assets are partly used to supply declared services – these payments should also be treated as regulated revenue and reflected in the declared services cost base.<sup>34</sup>

As explained above, payments from NBN Co are clearly not ‘regulated revenue’. In this respect, these payments are no different to any other form of unregulated revenue received by Telstra.

Simply because NBN Co will be using some fixed network assets does not mean that any revenue received from NBN Co under the DAs can be treated as regulated revenue. It is not the fixed line *network* or the assets comprising that network that are regulated under Part XIC of the CCA. Rather, it is specific *services* supplied over that network that are regulated (while many other services supplied over that network are not regulated). Therefore simply because a party such as NBN Co is using fixed line network assets does not mean that all revenue received from that party can automatically be treated as ‘regulated revenue’.

If the ACCC were to treat revenue from NBN Co as ‘regulated revenue’, this could potentially lead to it making a determination that is beyond its powers under Part XIC. Revenue received from NBN Co under the DAs does not relate to the supply of any declared service, and therefore it cannot be treated as ‘regulated revenue’ for the purposes of making an access determination under Part XIC.

Telstra acknowledges that NBN Co’s expected use of the fixed-line assets needs to be properly accounted for in determining prices for the declared fixed-line services. However this does not mean that the value of payments received from NBN Co can be taken into account. Rather, as for all other unregulated uses of the fixed line network, NBN Co’s expected use should be taken into account (principally through the allocation model), but the revenue received for this use cannot be.

#### *Comparisons with other industries are of limited relevance*

The Discussion Paper includes reference to approaches taken in other industries. One example given is the AER’s approach to accounting for ‘shared asset’ revenue.<sup>35</sup>

Such examples are of limited relevance, for two reasons:

- firstly, unlike most regulated utilities, Telstra derives only a very small portion of its revenue from regulated activities, with the vast majority of its revenue being ‘non-regulated revenue’. This means that if adjustments were to be made for Telstra’s ‘non-regulated revenue’ this would potentially have a very large impact on determination of prices;
- secondly, prices for the declared fixed line services are to be determined under a set of clearly defined Fixed Principles. As noted above, these Fixed Principles do not provide for adjustments for ‘non-regulated revenue’.

In relation to the second point above, it should be noted that the AER’s approach to accounting for ‘shared asset’ revenue is pursuant to specific provisions of the National Electricity Rules (**NER**). The NER specifically allow the AER to reduce a service provider’s annual revenue requirement to account for ‘shared asset revenue’ in certain circumstances.<sup>36</sup> Clearly, there is no equivalent provision of the Fixed Principles which would allow for similar adjustments.

#### *It is not appropriate to ‘socialise’ revenue to be received under a bilateral commercial agreement*

Some parties (including Optus) have argued that payments received by Telstra from NBN Co represent a “windfall” which ought to be shared with the rest of the industry. From a commercial perspective, this approach implies that access seekers should be entitled to the benefit of a commercial agreement between Telstra and NBN Co, without being exposed to the costs and risks

<sup>34</sup> Discussion Paper, p 71.

<sup>35</sup> Discussion Paper, pp 70-71.

<sup>36</sup> NER, clause 6.4.4 (for distribution) / 6A.5.5 (for transmission).

that Telstra will bear under this agreement – in short, this approach implies socialising the benefit of a bilateral agreement, while leaving Telstra to bear the cost and risk under that agreement.

Such an approach would not appropriately account for Telstra's legitimate commercial interests. Telstra has a legitimate interest in retaining the benefit of commercial agreements that it has struck with NBN Co.

Moreover, there is simply no basis in the Fixed Principles for such an approach. To do as proposed by these parties would amount to an *ex post* revaluation of the asset base, which is directly inconsistent with the Fixed Principle which locks in the initial RAB value.

*It is not in the LTIE to adopt an approach which artificially lowers prices*

As explained above, Telstra considers that migration of customers to the NBN and NBN Co's use of fixed line assets during the transition period should be accounted for in a way that is consistent with the Fixed Principles. This means that NBN migration should be accounted for to the extent that it impacts on the cost of supplying the fixed line services or demand for those services. In this context, revenue received from NBN Co under the DAs is not relevant and cannot be taken into account.

Therefore Telstra does not agree that there is a choice to be made between 'revenue approaches' and 'cost approaches' to accounting for NBN impacts, under the Fixed Principles. Given that the Fixed Principles prescribe a cost-based approach to determining prices, only a 'cost approach' to accounting for NBN rollout is allowed for.

However even if there was such a choice to be made, Telstra does not agree with submissions which suggest that the chosen approach should be the one that results in lowest prices. Clearly an approach which leads to lower prices cannot be in the LTIE if it does not allow Telstra a reasonable opportunity to recover its costs. Such an approach would also be contrary to the LTIE if it leads to significant price volatility during the NBN transition period.

In this submission, Telstra sets out an approach to accounting for NBN impacts which is consistent with the Fixed Principles, and which provides for real price stability during the NBN transition period. For reasons discussed later in this submission (section 20), Telstra submits that its proposed approach will promote the LTIE.

## C. DETERMINING BBM INPUTS



### 4. Introduction

In its 2011 FADs, the ACCC made Fixed Principles that specify the components of the revenue requirement (the 'building blocks' of the BBM). Pursuant to the Fixed Principles, the annual revenue requirement for each regulatory year comprises:

- a return on the RAB calculated by multiplying the WACC by the opening RAB for that regulatory year;
- a return of the RAB, that is regulatory depreciation, for that regulatory year;
- operating expenditure forecast to be incurred in that regulatory year; and
- an allowance for tax liabilities

The BBM therefore requires a number of inputs to be updated at the commencement of each new regulatory period. These include forecasts of expenditure, demand and the required rate of return.

For this purpose, Telstra has developed an integrated forecasting model (referred to as the Forecast Model). The Forecast Model allows for forecasting of service demand and expenditure requirements and calculation of the revenue requirement under a range of NBN rollout scenarios. Relationships between the NBN rollout, demand for fixed line services and expenditure requirements have been codified in the Forecast Model, so that if the NBN rollout scenario changes, forecasts of demand and expenditure requirements (and consequently the calculated revenue requirement) will update in a consistent manner.

In this section, Telstra presents the results of the Forecast Model based on the NBN Rollout Base Case Scenario. As noted above, the Base Case Scenario is based on information provided in the NBN Co Strategic Review.<sup>37</sup>

Telstra acknowledges that if the NBN rollout plan or timetable changes, forecasts of demand and expenditure requirements (and consequently the calculated revenue requirement) will need to be updated.

For the purposes of estimating all BBM inputs, Telstra has effectively assumed a five-year regulatory period. That is, all forecasts and estimates are for the five-year period from 1 July 2014 to 30 June 2019. Depending on when the replacement FADs are made and the term that is determined by the ACCC, this approach to determination of BBM inputs may need to be revisited. Telstra's submissions on the appropriate term for the replacement FADs are set out in section 19 below.

<sup>37</sup> NBN Co, *Strategic Review*, 12 December 2013.

## 5. Telstra's approach to forecasting

### 5.1 Forecasts provided in response to the BBM RKR

On 13 September 2013, the ACCC required Telstra to provide certain information under Rule 15 of the Building Block Model Record Keeping and Reporting Rule (**BBM RKR**) for the purposes of its review of the FLSM. On 25 November 2013, Telstra provided the ACCC with data and explanatory material (the **BBM RKR Explanatory Statement**) as required under the BBM RKR. Telstra also provided follow up information in response to requests from the ACCC in January 2014 (together, the **RKR Response**).<sup>38</sup>

The RKR Response included Telstra's approach to forecasting capital expenditure, operating expenditure and demand for the next regulatory period, along with the forecasts for the period for FY2014-19. For the RKR Response, Telstra adopted the following approach:

- Telstra generally based its forecasts on information, processes and experienced views of likely market developments as at 30 June 2013. This was intended to ensure broad internal consistency between the assumptions underpinning the capital expenditure, operating expenditure and demand forecasts.
- Telstra modelled key external and market factors (most notably the NBN rollout and the anticipated impact it will have on demand for fixed line services) based on internal estimates of the impact for the NBN rollout undertaken as at June 2013.
- To provide the ACCC with forward looking estimates of operating expenditure and capital expenditure that most closely align with, and relate to, the relevant FLSM asset categories (and align with the fixed line services for which the FLSM estimates costs), as required by the RKR, Telstra's product managers and subject matter experts prepared "bottom-up" operating expenditure and capital expenditure forecasts based on current actual expenditure.<sup>39</sup> Telstra only deviated from its well-developed processes for setting forecasts where necessary to meet the BBM RKR requirements, for example, to extrapolate forecasts over a longer period than Telstra's standard 12 to 36 month planning horizon.

This "bottom up" forecasting approach gives a high degree of confidence that Telstra's forecasts capture only costs that are relevant to the FLSM and which are reasonable and efficiently incurred.

However, inherent in any process for providing longer range forecasts, there are a number of challenges. These challenges are exacerbated in circumstances where there is recognised uncertainty about the technology that will be used to deploy the NBN and the speed with which that deployment will take place.

### 5.2 Revision of forecasts to account for new information on NBN impacts

Telstra now has actual expenditure and demand information for FY2014. Clearly this information was not available when Telstra submitted its forecasts in RKR Response in November 2013.

More importantly, key assumptions that were the basis of the 2012 BBM RKR forecasts no longer hold – with the NBN rollout no longer based on a FTTP rollout to 93% of the population (as it was when the 2013 BBM RKR forecasts were prepared). The change in the deployment rules for the NBN has resulted in greater uncertainty as to the potential rollout rate and complicated the potential interactions between the rollout, demand and expenditure as compared to the previous, FTTP-based deployment.

<sup>38</sup> Telstra, *Final Access Determinations (FADs) Inquiry – confidential response to information request under the BBM RKR*, 25 November 2013.

<sup>39</sup> For capital expenditure, this involved building up all forecasts from an assessment of individual projects over the regulatory period, and limiting these forecasts to projects that have already been approved in accordance with Telstra's investment approval processes.

Telstra has therefore revised its forecasts of operating expenditure, capital expenditure and demand for the fixed line services, using its Forecast Model. The forecasts have been revised in two ways:

- first, the forecasts have been “re-based”. As actual expenditure and demand information is now available for FY2014, this more recent information can be used as the basis for forecasting for each of the financial years FY2015-FY2019; and
- second, expenditure and demand trends in the forecast years have been revised to reflect the recent changes to Telstra’s external operating environment and, in particular, the changes in the NBN rollout plan and timeframes. In some cases, this has involved more explicitly accounting for likely impacts of declines in demand on network expenditure requirements. This has been necessary in light of the revised NBN rollout plan, and the expected compression of the migration timetable.

The Forecast Model generates forecasts for service demand and expenditure requirements under a range of NBN rollout scenarios. Relationships between the NBN rollout, demand for fixed line services and expenditure requirements have been codified in the Forecast Model, so that if the NBN rollout scenario changes, forecasts of demand and expenditure requirements (and consequently the calculated revenue requirement) will update in a consistent manner.

In general, the revision of forecasts to account for more recent information has led to a downward revision of both demand and expenditure forecasts for the fixed line network. The change in the NBN rollout plan is expected to increase the speed of customer migration from Telstra’s fixed line network to the NBN, leading to a more rapid decline in fixed line network demand and expenditure requirements than had previously been anticipated.

However, as explained below, the decline in expenditure requirements is not expected to be as rapid as the decline in demand. This is because many expenditure requirements relate to activities which are unrelated to service demand.

The following sections set out Telstra’s approach to forecasting demand, capital expenditure and operating expenditure and set out the forecasts for FY2014-19, taking the NBN impact into account. Further detail on the forecasting approach is set out in the forecast model documentation (Appendix 4).

The Forecast Model and documentation have both been subject to independent expert review by Mr Mike Smart. Mr Smart’s expert report is Appendix 5 to this submission.

As noted above, all the results of the Forecast Model presented in this submission are based on the NBN Rollout Base Case Scenario. If (as is likely) more information becomes available on the NBN rollout plan and timetable during the course of the FAD inquiry, the Forecast Model can be updated to accommodate this.

### 5.3 Prudence and efficiency of forecast expenditure

The base year used for forecasting is FY2014. This is most recent full financial year for which actual operating and capital expenditure data is available.

Costs incurred in this base year represent prudent and efficient costs. Telstra faces very strong incentives to operate efficiently, for four related reasons:

- at a group level, and unlike most regulated businesses, the vast majority of Telstra’s revenues are derived from competitive (unregulated) services, and therefore it faces – at a corporate level – competitive pressure to reduce costs wherever possible and operate efficiently;



- with respect to the fixed line network asset classes specifically, and the costs relevant to these assets classes, a significant majority of Telstra's revenues are derived from unregulated, competitively provisioned retail services, which similarly reduces any incentive for Telstra to incur unnecessary and otherwise inefficient expenditures in the provision of these services;
- in line with the fact that the regulated fixed line asset classes comprise only a fraction of Telstra's overall business, the allocation of capital and operating expenditure to these assets and services is constrained by opportunities to exploit limited capital resources in other markets, many of which would be expected to provide greater growth opportunities than the market for fixed line services; and
- to the extent that Telstra derives revenue from regulated services, its allowance for operating expenditure as part of that revenue stream is determined on a 'set and forget' basis, creating a very strong efficiency incentive.<sup>40</sup>

Accordingly, Telstra has strong incentives to ensure that both its historic expenditure, and its forecast expenditure (which is based on past expenditure patterns) reflects prudent and efficient costs. Telstra notes that in the energy sector it is generally presumed that past operating expenditure is efficient, where businesses have operated under an efficiency incentive framework.<sup>41</sup> This presumption should be even stronger in Telstra's case, due to the additional efficiency incentive created in its case by the pressures of competition – both generally and specifically with respect to the fixed line network services – as well as the fact that Telstra receives no regulatory benefit from actual expenditure exceeding past regulatory forecasts.

Further, as will be discussed below and in Appendix 4, for the purposes of forecasting expenditure Telstra has also assumed that there will be ongoing efficiency gains in a number of areas over the forecast period. These include assumed reductions in labour costs associated with network maintenance and operation of network IT systems, and reductions in energy usage associated with emissions reductions initiatives. Telstra has also assumed that it will be able to make significant cost savings as demand for network services declines.

These matters are addressed further in sections 7 and 8 below.

<sup>40</sup> One of the reasons for the ACCC not allowing for 'unders and overs' adjustments for operating expenditure is that this is seen to promote efficient expenditure by Telstra (ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 87). This is consistent with the approach taken in the energy sector.

<sup>41</sup> AER, *Better Regulation: Explanatory Statement – Expenditure Forecast Assessment Guideline*, November 2013, p 42.



## 6. Demand forecasts

The Fixed Principles require that demand forecasts should:<sup>42</sup>

- be based on an appropriate forecasting methodology;
- be based on reasonable assumptions about the key drivers of demand;
- be determined utilising the best available information before the ACCC, including historical data that can identify trends in demand; and
- be determined taking into account current demand and economic conditions.

This section describes how Telstra derives its forecasts of demand for each of the fixed line services, taking into account the impact of NBN rollout and other factors expected to affect demand over the forthcoming regulatory period.

### 6.1.1 Updating demand forecasts

Since submitting its BBM RKR response in November 2013, Telstra has revised and updated its demand forecasts for each of the fixed line services. As a first step, Telstra has reviewed its 'business-as-usual' (or "pre NBN") forecasts of service demand. These forecasts assume the NBN is not rolled out and seek to provide a counterfactual against which the impact of the NBN rollout can be assessed. Necessarily these forecasts involve assumptions concerning the evolution of the market for fixed line services in a hypothetical environment. It is clear that the NBN rollout will occur in some form and so these forecasts must abstract from Telstra's usual forecasting process.

In developing "pre NBN" demand forecasts, Telstra has adopted the following broad methodology to establish internally consistent and reasonable forecasts for the relevant fixed line services:

- Historic analysis of trends in service relativities and shares among major service types is used to establish "big picture" trends and the likely future relativities between major service types and overall market size. For example, the growth in broadband-enabled fixed line services and the relative and absolute decline the voice only fixed line services.
- The above analysis is calibrated by reference to information from Telstra's corporate planning system (T-Plan), with respect to market share assumptions for various services to over the first three years of the forecasting process (FY2015 to FY2017).
- In addition, information on the impact of exogenous factors on overall market size and conditions – such as growth in the take-up of bundling of voice and broadband services and fixed to mobile substitution; as well as information on potential market and technical limitations on the continuation of observed trends, is also used to calibrate forecasts, particularly for FY2018 and FY2019.

This process is described in more detail in the Forecast Model Documentation (Appendix 4).

Within the Forecast Model, the NBN Rollout Scenario is then applied to the pre NBN demand forecast to provide a "post NBN" view of service demand for the fixed line services between FY2015 and FY2019. The way in which these adjustments were made is also described in the Forecast Model Documentation (Appendix 4).

### 6.1.2 NBN rollout assumptions underpinning the updated demand forecasts

On the basis of information contained within the NBN Co Strategic Review<sup>43</sup> Telstra has developed an NBN Rollout Base Case Scenario. Under the Base Case, the forecast of the

<sup>42</sup> Fixed Principles, clause 6.11.

cumulative number of premises expected to be passed by NBN Co to FY2019 is shown in Table 4 below.

**Table 4: Forecast premises passed by NBN Co, NBN Rollout Base Case Scenario**

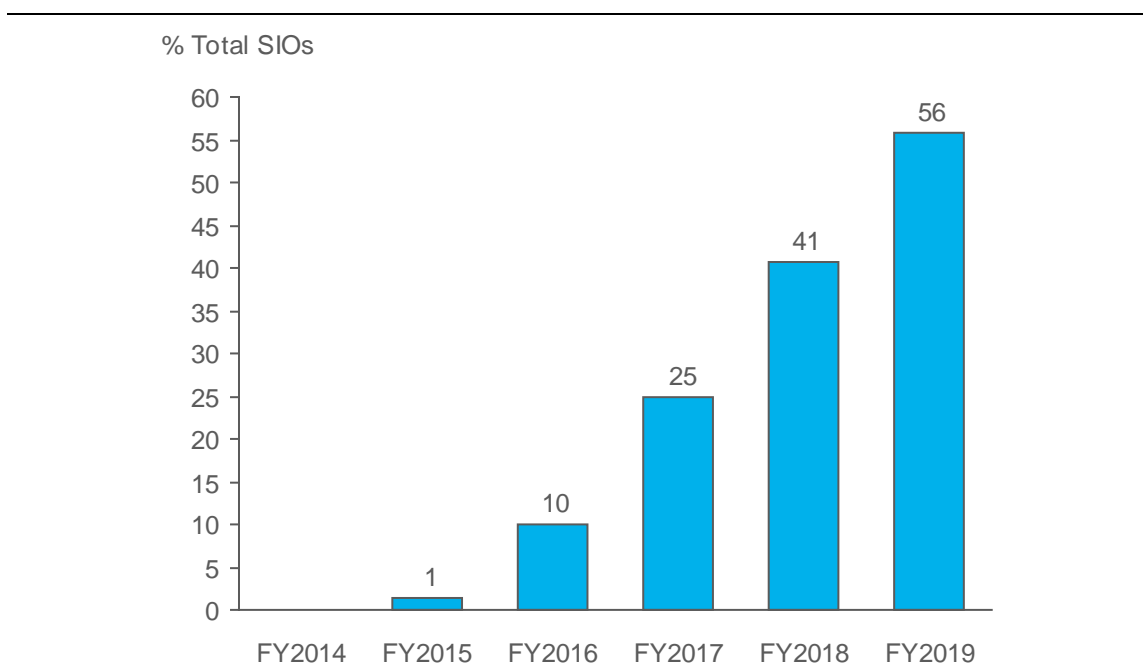
Technology	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
<b>FTTN</b>	0	220	440	934	1,701	2,469
<b>FTTdp/B</b>	0	0	0	173	518	863
<b>FTTP</b>	281	532	1,064	1,525	1,915	2,305
<b>HFC</b>	0	1,044	2,088	2,693	2,858	3,023
<b>Total</b>	<b>281</b>	<b>1,796</b>	<b>3,592</b>	<b>5,324</b>	<b>6,991</b>	<b>8,659</b>

In order to account for the impact of NBN rollout on demand for fixed line services, the forecast of premises to be passed by NBN Co must be converted to a forecast of premises migrated (and fixed line services lost). As it is likely to take some time for all customers in a rollout area to migrate to the NBN, there will be a lag between NBN passing a certain area and fixed line services being disconnected in that area. Under the NBN Rollout Base Case, it is assumed that 55% of services will migrate within one year of being passed by the NBN, and that 100% of services will migrate within two years. The 55% migration rate at 12 months is based on information to date from the limited set of NBN fibre service areas that reached the Disconnection Date. Telstra expects better information on which to forecast the future rate of migration to become available over the course of this inquiry as more fibre serving areas reach their Disconnection Date.

Based on the forecast number of premises to be connected to the NBN, as set out in the NBN Co Strategic Review – and applying the assumptions above regarding speed of customer migration – a forecast of service migration can be developed. This is shown in Figure 20 below. The forecasted speed of NBN migration is used to adjust Telstra's forecasts of demand for each of the fixed line services.

<sup>43</sup> NBN Co, *Strategic Review*, 12 December 2013, p 97.

**Figure 20: Forecast fixed line services migrated, NBN Rollout Base Case Scenario**



### 6.1.3 Updated demand forecasts

Forecast demand for the declared services, adjusted to account for the expected impact of NBN rollout, is set out in Table 5 below.

**Table 5: Demand for declared fixed line services –NBN Rollout Base Case Scenario**

Service	FY2015	FY2016	FY2017	FY2018	FY2019
WLR (SIOs)	██████	██████	██████	██████	██████
ULLS (SIOs)	██████	██████	██████	██████	██████
LSS (SIOs)	██████	██████	██████	██████	██████
WDSL (SIOs)	██████	██████	██████	██████	██████
FOAS / FTAS (million minutes)	██████	██████	██████	██████	██████
LCS (million minutes)	██████	██████	██████	██████	██████

As can be seen Telstra is forecasting a significant reduction in demand for each of the fixed line services, as NBN migration occurs over the next five years. The most significant declines are expected for LSS, WDSL and WLR, while a more modest decline in demand is expected for ULLS. The differences in the relative movement in forecast demand between services reflect the different forecast trajectories for different services in a “pre NBN” world. The assumptions surrounding the rollout of the NBN and the migration of customers are not assumed to have a bias in its impact on individual access services.

## 7. Operating expenditure forecast

This section outlines the framework used by Telstra to forecast its operating expenditure requirements for the fixed line network. This framework is set out in more detail in the accompanying Forecast Model (Appendix 3) and Forecast Model Documentation (Appendix 4).

The Fixed Principles require that forecast operating expenditure reflects prudent and efficient costs. The Fixed Principles also identify certain matters which are relevant to whether forecast operating expenditure reflects prudent and efficient costs, including:<sup>44</sup>

- the access provider's level of operating expenditure in the previous regulatory period;
- reasons for proposed changes to operating expenditure from one regulatory period to the next regulatory period; and
- any relevant regulatory obligations, or changes to such obligations, applicable to providing the relevant declared fixed line services.

As will be discussed below, Telstra's forecast of operating expenditure for the forthcoming regulatory period is based on its actual expenditure in the most recent full financial year.

Telstra then applies certain step and trend changes to this base year expenditure to reflect forecast efficiency gains and expected changes in the operating environment over the forthcoming regulatory period, including expected changes in demand associated with NBN rollout.

### 7.1 Forecasting framework

Telstra has previously provided forecasts of operating expenditure as part of its response to the BBM RKR Notice. These forecasts were submitted to the ACCC in November 2013, along with detailed explanatory material.

Since Telstra submitted its forecasts in response to the BBM RKR Notice, there have been very material changes to the external operating environment which have necessitated a review of the forecasting methodology. Most significantly, there has been a revision of the expected timeframes for the NBN rollout, and consequently a revision of timeframes for migration of customers from Telstra's fixed line network to the NBN.

Telstra also now has actual expenditure and demand information for FY2014. Clearly this information was not available when Telstra submitted its forecasts in response to the BBM RKR Notice in November 2013.

Telstra has therefore revisited its forecast of operating expenditure to "re-base" this forecast based on FY2014 actual expenditure information, and to revise its forecasts of expenditure trends. The revision of expenditure trends has been necessary to reflect the recent changes to Telstra's external operating environment, and in particular, the changes in the NBN rollout plan and timeframes. In some cases, this has involved more explicitly accounting for likely impacts of declines in demand on network expenditure requirements.

In revising its forecasts, Telstra has retained the same operating expenditure categories used in the RKR Response – i.e. customer service delivery (**CSD**), networks, IT services (**ITS**), Telstra Service Operations (**TSO**), Operations Business Unit Support, propex, Telstra Wholesale indirect costs, LSS equipment costs and a contribution to unattributable common costs.<sup>45</sup> For each of

<sup>44</sup> Fixed Principles, clause 6.9.

<sup>45</sup> These categories are explained in detail in the RKR Response. Refer to: Telstra, *Final Access Determinations (FADs) Inquiry – confidential response to information request under the BBM RKR*, 25 November 2013, section 5.1.1.

these expenditure categories, Telstra has re-examined expenditure drivers and trends, as well as “re-basing” its forecasts using FY2014 actual expenditure.

The general framework adopted by Telstra in revising its forecast of operating expenditure is the ‘base-step-trend’ framework. This is the framework adopted in many other regulated industries for forecasting operating expenditure.<sup>46</sup>

The ‘base-step-trend’ framework involves:

- starting with a base amount of expenditure, based on actual expenditure in a chosen ‘base year’;
- making step changes, for expected one-off changes in operating costs from the base year. Step changes may either be positive (for efficient costs not reflected in the base forecast, such as costs due to changes in regulatory obligations and the external operating environment) or negative (for one-off costs in the base year); and
- determining trend adjustments to be made in each year of the forecast period. Trend adjustments usually fall into two categories: adjustments for forecast changes in the size of the network (‘scale factors’) and adjustments for forecast changes in input costs, such as labour and materials costs (‘input cost escalators’ or ‘real cost escalators’).

This framework allows Telstra to account for the impact of NBN rollout, as well other factors likely to impact on its operating expenditure over the next five years. The impact of the NBN rollout is principally accounted for by scale factors applied to certain operating expenditure categories (i.e. factors which reduce forecast expenditure in those categories as the scale of the network diminishes). The impact of other factors, such as input cost changes, is accounted for through a combination of cost escalators and step changes.

## 7.2 Comparison of FY2014 actual operating expenditure (base year) to BBM RKR forecasts

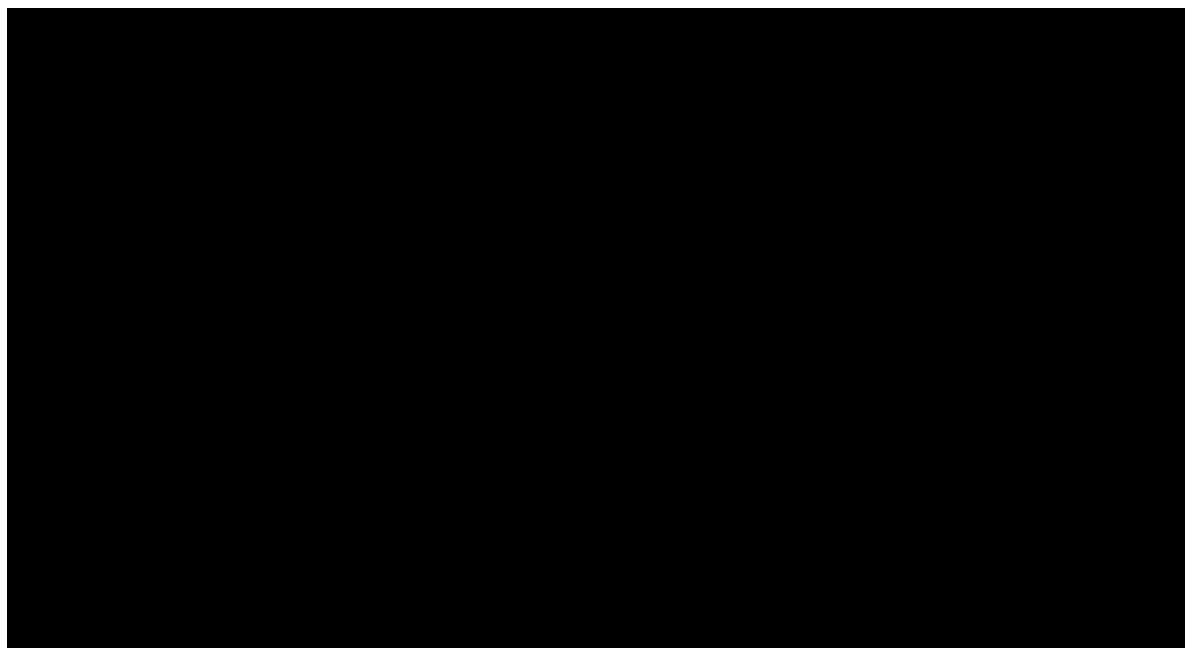
As noted above, Telstra has re-based its operating expenditure forecasts by updating the FY2014 forecasts that we set out in the 2013 BBM RKR response with 2014 actual operating expenditure data.

In broad terms Telstra has employed the same, bottom-up methodology used in the preparation of the 2013 BBM RKR response in the preparation of the FY2014 actual expenditure data. However some refinements have been made to address errors in which relevant operating expenditure was excluded from the 2013 BBM RKR figures, as well to remove expenditure that has been determined to not be relevant to the fixed line services asset classes.

Figure 21 sets out the comparison between the BBM RKR forecasts and actuals for FY2014 operating expenditure.

<sup>46</sup> For example: AER, *Better Regulation: Explanatory Statement – Expenditure Forecast Assessment Guideline*, November 2013.

Figure 21: Differences between 2013 BBM RKR forecast for 2014 operating expenditure and 2014 actuals<sup>47</sup>



From the above, it can be observed that:

- On a like for like basis, the BBM RKR forecast for FY2014 operating expenditure provides a reasonable approximation of actual operating expenditure. The BBM RKR forecast relevant operating expenditure of [REDACTED] in FY2014, whereas actual operating expenditure (on a comparable basis) was [REDACTED], a difference of less than 4%.
- Operating expenditure incurred by the Networks line of business was [REDACTED] more than forecast – principally due to the forecast not including relevant expenditure related to network building maintenance costs. The building maintenance costs relevant to the fixed line network assets amounted to [REDACTED] in FY2014.
- TSO costs have decreased by [REDACTED] compared to the BBM RKR forecasts. This reduction is principally due to a change in the methodology used to apportion the TSO functions costs to the fixed line services asset classes. A review of the approach adopted as part of the BBM RKR determined that the approach used at that time may have resulted in costs not directly relevant to the fixed line services asset classes being included.

The major difference between the BBM RKR forecasts for operating expenditure and the FY2014 actuals Telstra is providing as part of this submission (and which have formed the basis for the revised forecasts), is the netting out of TUSMA subsidies for the provision of the Standard Telephone Service under Telstra's obligations as the provider of the Universal Service Obligation (USO) services. This adjustment was not included in the BBM RKR forecasts.

### 7.2.1 Accounting for TUSMA subsidies

Under the current TUSMA funding arrangements (**TUSMA Agreement**) for the USO, the Government contributes base funding of \$100 million from FY2014, with remaining costs funded through an annual telecommunications industry levy paid by eligible telecommunications carriers, including Telstra.

<sup>47</sup> Note: Costs related to LSS not compared

In order to determine the effective subsidy Telstra receives as the USO provider that is relevant to the costs of the fixed line network, Telstra has estimated the net financial contribution it receives for the provision of standard telephone services (STS).

For FY2014, the total fixed funding requirement for STS is \$230 million. Based on the TUSMA Agreement, allocation of the industry levy is equi-proportional to the share of eligible revenue for each respective telecommunication carrier. Telstra's share is set at 61%, and therefore Telstra is required to self-fund 61% of the industry funding contribution. Taking into account Telstra's contribution, the net subsidy received by Telstra for the provision of the STS contributed by Government and other industry participants is estimated at \$123 million for FY2014.

Under the TUSMA Agreement, the funding allocation for STS is fixed until 2021. Telstra has therefore not forecast any change in the current net subsidy received from Government and other industry participants over the period FY2015 to FY2019.

### 7.3 Application of step and trend changes

Forecasts were developed by Telstra for each of the years from FY2015 to FY2019, using FY2014 expenditure as a base. This involved the application of certain step changes and trend adjustments to individual cost categories to account for NBN rollout and other expected changes in the external operating environment.

In order to develop a robust forecast of operating expenditure for FY2015-19, Telstra has undertaken the following steps:

- for each category of base year expenditure, the key activities and cost drivers were identified;
- the best available information on NBN rollout, input costs and other relevant aspects of the operating environment was collected;
- the likely impact of those operating environment factors on the key activities and cost drivers underpinning base year expenditure was determined; and
- appropriate step changes and trend adjustments were made to account for these impacts.

The key step changes and trend adjustments applied to each category of direct operating expenditure are summarised in Table 6 below.

These trends are explained in detail in the Forecast Model Documentation (Appendix 4).

**Table 6: Summary of expected trend / step changes in direct operating costs**

Business unit / LOB	Activity	FY2014 cost (\$m)	Expected cost trend
CSD LOB	Fault repair		Fault repair cost varies with forecast fault volumes (dependent on SIO volume and fault rate) and unit rates for repair.
	Pro-active / routine maintenance		Routine maintenance costs vary with the number SIOs and trends in input costs.
	Other activities		As for routine maintenance costs..
	CSD indirect costs		Indirect proportion to remain constant.



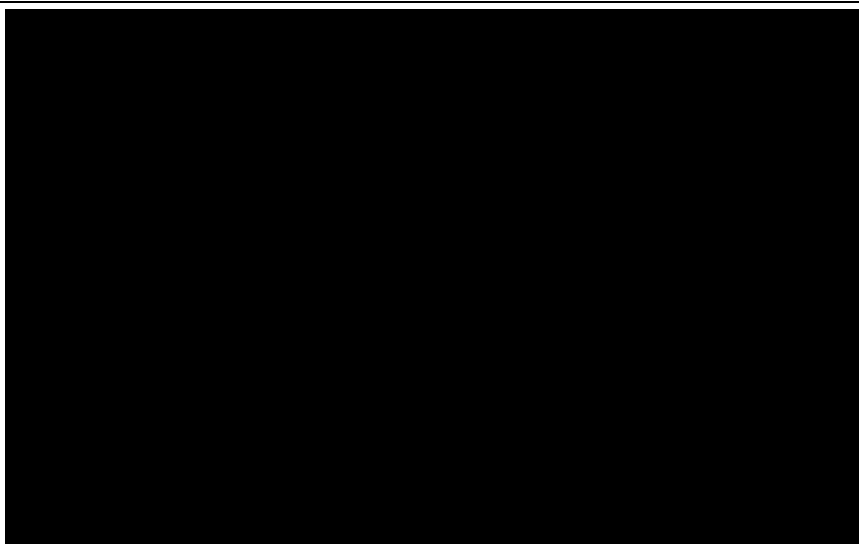
Business unit / LOB	Activity	FY2014 cost (\$m)	Expected cost trend
<b>Networks LOB</b>	Power consumption	■	Electricity charges expected to follow the electricity price index. There will be some reduction in power usage associated with efficiency initiatives and reduced load from network equipment.
	Rents / land tax / rates / other building outgoings	■	No change in the rental accommodation or land portfolio is expected over the next five years. Rent and tax / rate costs are expected to increase in line with rental cost index (for rents) / CPI (for taxes and rates).
	Other (includes maintenance contracts and equipment licences)	■	It is assumed that there will be a reduction in maintenance contract costs. Network equipment licensing costs assumed to increase in line with CPI.
	Networks indirect cost	■	Indirect cost proportion assumed to remain constant.
<b>ITS LOB</b>	Software, hardware and development of IT systems	■	It is assumed that there will be some reduction in the cost of IT systems, due to efficiency gains. This will be offset to some extent by cost inflation.
<b>TSO LOB</b>	Monitoring, assurance, major incident management and labour to operate IT systems	■	Cost of individual TSO functions expected to decline due to efficiency gains, offset to some extent by cost inflation.
<b>Ops Business Support</b>	Common / overhead costs for Telstra Operations business unit.	■	Share of these common costs attributable to fixed line services calculated as a fixed mark-up on total cost attributable to these services for individual lines of business.
<b>Propex</b>	Related to demand driven capital projects	■	Directly related to projected capital expenditure requirements.
<b>Telstra Wholesale business unit</b>	Sales and management functions for wholesale services.	■	Expected to decline as demand for wholesale services declines.
<b>Corporate overhead cont.</b>	HR, Legal, Finance and Corporate administration	■	Share of these overhead costs attributable to fixed line services calculated as a fixed mark-up on total operating expenditure.

## 7.4 Operating expenditure forecast for the forthcoming regulatory period

The revisions made to Telstra's operating expenditure forecasts since the RKR Response have led to a significant overall reduction in the amount forecast for the forthcoming five-year period.

Forecast operating expenditure associated with the fixed line network is now expected to decline by [REDACTED] in real terms between FY2014 and FY2019 (Figure 22).

**Figure 22: Forecast operating expenditure (\$FY2014)**



The overall reduction in operating expenditure requirements is largely driven by the expected decline in demand for fixed line services. For those operating activities that are related to demand for network services – such as fault repair and proactive maintenance – there is forecast to be a significant decline in operating costs.

The forecast reduction in real operating expenditure over the period FY2014-19 is not as large as the forecast reduction in demand. This reflects the fact that many components of Telstra's operating expenditure are largely fixed and relatively invariant with demand, and so this expenditure will not necessarily decline at the same rate as demand. In particular, many of the costs of operating and maintaining the fixed line network – such as network power and IT systems costs – are largely independent of the number of service being supplied over the network.

Further, it is expected that over the next five years, there will be increases in input costs and some increases in maintenance requirements associated with ageing of fixed line network infrastructure. These increases in unit costs and higher maintenance requirements will to some extent offset the effect of declining demand.

Forecast operating expenditure by component is summarised in Table 7 below. This shows that while some operating cost components are expected to decline significantly as demand declines, other components are expected to remain relatively unchanged.

As can be seen from Table 7 below, there is forecast to be an increase in propex requirements over the forecast period. This is partly attributable to an increase in NBN-related propex requirements, associated with remediation of the duct network. As discussed below (section 8) in relation to NBN-related capital expenditure, inclusion of this additional expenditure is both necessary and appropriate.

Table 7: Forecast operating expenditure by cost component

Category	FY15	FY16	FY17	FY18	FY19
CSD LOB					
Networks					
ITS LOB					
TSO LOB					
Operations Business Support					
Telstra Wholesale					
Common cost cont					
LSS costs					
Propex					
TUSMA subsidy					
Total					

In summary, although the overall decline in operating expenditure is not expected to match the proportional decline in service demand, Telstra's operational expenditure forecasts nevertheless reflect an aggressive cost reduction target in real terms of roughly [REDACTED] of relevant expenditure by FY2019.

## 7.5 Efficiency and prudence of forecast operating expenditure

As noted above, the Fixed Principles identify certain matters which are relevant to whether forecast operating expenditure reflects prudent and efficient costs, including the level of operating expenditure in the previous regulatory period, reasons for proposed changes to operating expenditure from one period to the next, and any relevant regulatory obligations, or changes to such obligations.<sup>48</sup>

For reasons discussed below, Telstra's forecast of operating expenditure is clearly prudent and efficient, when compared to both actual and forecast expenditure in the previous regulatory period, and taking into account the strong efficiency incentives faced by the business.

<sup>48</sup> Fixed Principles, clause 6.9.

### 7.5.1 Relevant regulatory obligations

As explained in Telstra's RKR Response, a number of regulatory obligations are relevant to the operation of the fixed line network and supply of fixed line services.<sup>49</sup>

In terms of operating expenditure requirements, some of the most important obligations are:

- the USO, which obliges Telstra to provide new copper connections at certain greenfield estates and brownfield premises (regardless of whether or not providing these new connections will be profitable);
- the Customer Service Guarantee (**CSG**) framework, which obliges Telstra to meet performance standards and provide customers with financial compensation when these standards are not met; and
- the National Reliability Framework (**NRF**) requirements, which requires faults to be repaired within reasonable time frames.

The effect of these regulatory obligations is to mandate certain minimum levels of service, in terms of network performance, provision of new connections and fault repair. Where these minimum service levels are not met, financial penalties apply.

These regulatory obligations have not changed materially since the 2011 FADs inquiry. However, compliance with these obligations continues to be a major driver of fixed line network operating expenditure.

### 7.5.2 Efficiency incentives faced by Telstra

Telstra faces very strong incentives to operate efficiently and ensure that service standards and other regulatory obligations are met at least cost. There are two main sources of this efficiency incentive, which are discussed below.

First, unlike most regulated businesses, the vast majority of Telstra's revenues are derived from competitive (unregulated) services. Overall, fixed line products accounted for less than 30% total product sales revenue for Telstra in FY2014.<sup>50</sup> Of this portion of total revenue attributable to fixed line products, the majority is attributable to retail and unregulated wholesale products. This leaves a relatively smaller share of Telstra's revenue that is attributable to regulated fixed line wholesale services.

Therefore Telstra faces competitive pressure to reduce costs wherever possible (subject to regulatory obligations). Any cost reductions directly contribute to Telstra's competitiveness and improve its overall financial performance. On the other hand, any inefficiency or imprudent spending will clearly be detrimental to the business' performance.

Secondly, even for that part of Telstra's business that is regulated, there is a very strong incentive to reduce expenditure, where it is prudent and efficient to do so. This efficiency incentive arises due to the way in which Telstra is compensated for operating expenditure associated with the fixed line network through regulated prices, and in particular, the de-linking of actual expenditure from price determination. Since the determination of regulated prices is based on *forecast* expenditure, rather than *actual* expenditure, Telstra has a very strong incentive to reduce its actual operating expenditure over time. Telstra effectively keeps the benefit of any efficiency gains that it makes, and bears the cost of any inefficient or imprudent spending.

<sup>49</sup> Telstra, *Final Access Determinations (FADs) Inquiry – confidential response to information request under the BBM RKR*, 25 November 2013, p 41.

<sup>50</sup> Telstra Annual Report 2014, p 16.

One of the reasons for the ACCC not allowing 'unders and overs' adjustments for operating expenditure is that this is seen to promote efficient expenditure by Telstra. The ACCC stated that the efficiency incentive mechanisms it established in the 2011 FADs would promote efficient expenditure by Telstra.<sup>51</sup>

As a result of these strong efficiency incentives, it may be expected that Telstra's actual operating expenditure will reflect prudent and efficient costs. In other words, efficient levels of operating expenditure will be revealed over time, through Telstra's actual expenditure.

### 7.5.3 Comparison to past period operating expenditure

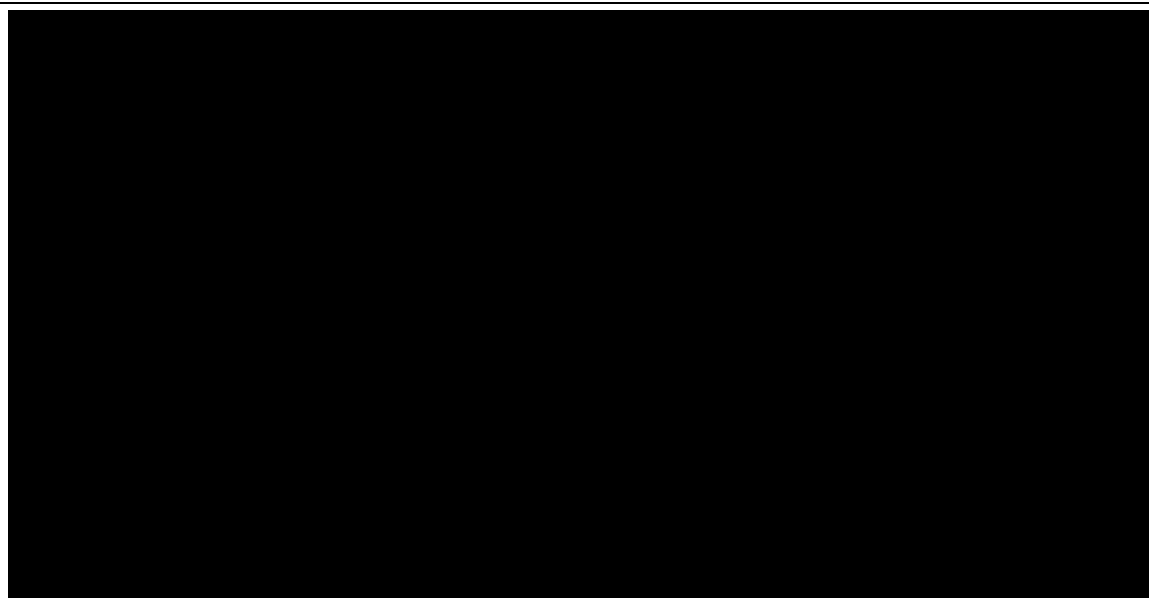
As set out in the response to the BBM RKR, Telstra has modified the approach previously used by the ACCC to determine relevant operating expenditure.<sup>52</sup> To more directly address the requirements of the RKR, and to provide a more robust, forward-looking view of relevant expenditure (whilst seeking to minimise the inclusion of non-relevant expenditure), Telstra has relied on detailed, bottom-up estimates in preparing its forecasts for the forthcoming period. This differs from the previous approach, which drew on aggregate expenditure estimates as set out in the RAF Reports.

As such, it is difficult to directly compare previous regulatory forecasts for operating expenditure to the forecasts for the next regulatory period, or to compare Telstra's actual operating expenditure for the previous period as against forecasts.

In broad terms, the adoption of a more robust bottom-up approach (as required under the BBM RKR) has materially reduced the overall level of operating expenditure that is inputted to the BBM price setting process.

Figure 23 below compares the forecast capital expenditure for the current and forthcoming FAD periods, in real (\$FY2009) terms.

**Figure 23: Forecast operating expenditure, FY11-FY19**



<sup>51</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 87.

<sup>52</sup> Telstra, *Final Access Determinations Inquiry – confidential response to information request under the BBM RKR: Comparison Statement*, 25 November 2013, pp 33-34.

The above chart clearly illustrates:

- Telstra's forecast operating expenditure over the period FY2015-19 is significantly lower than the forecasts used by the ACCC for the previous regulatory period. In real terms, actual, relevant operating expenditure as established by Telstra for FY2014 is [REDACTED] lower than forecast under the previous FAD.
- Under the NBN Rollout Base Case Scenario, the forecast decline in operating expenditure over the period FY2014 to FY2019 means that by FY2019, operating expenditure will be [REDACTED] lower in real terms
- On a "like for like" basis (e.g. comparing operating expenditure amounts calculated on the same basis), forecast operating expenditure in each year from FY2015 to FY2019 is forecast to be lower than was observed in FY2014.

#### 7.5.4 Future efficiency gains assumed in forecast model

In forecasting expenditure for FY2015-FY2019, Telstra has assumed that efficiency gains will be made across the relevant parts of the business that contribute to relevant operating expenditure. Many of the assumed efficiency gains are highly ambitious, in the sense that they exceed what has in fact been achieved in recent years, or will require Telstra to scale up relatively small optimisation and cost reduction programs in line with and in proportion to the unprecedented reductions in demand that are likely to occur due to the NBN rollout. However, Telstra is equally aware that in order to ensure a prudent and conservative forecast of operating expenditure for the forthcoming period is provided to the ACCC, it is necessary to adopt these highly ambitious assumptions as to future efficiency gains.

Examples of the efficiency gains assumed in the Forecast Model are described below.

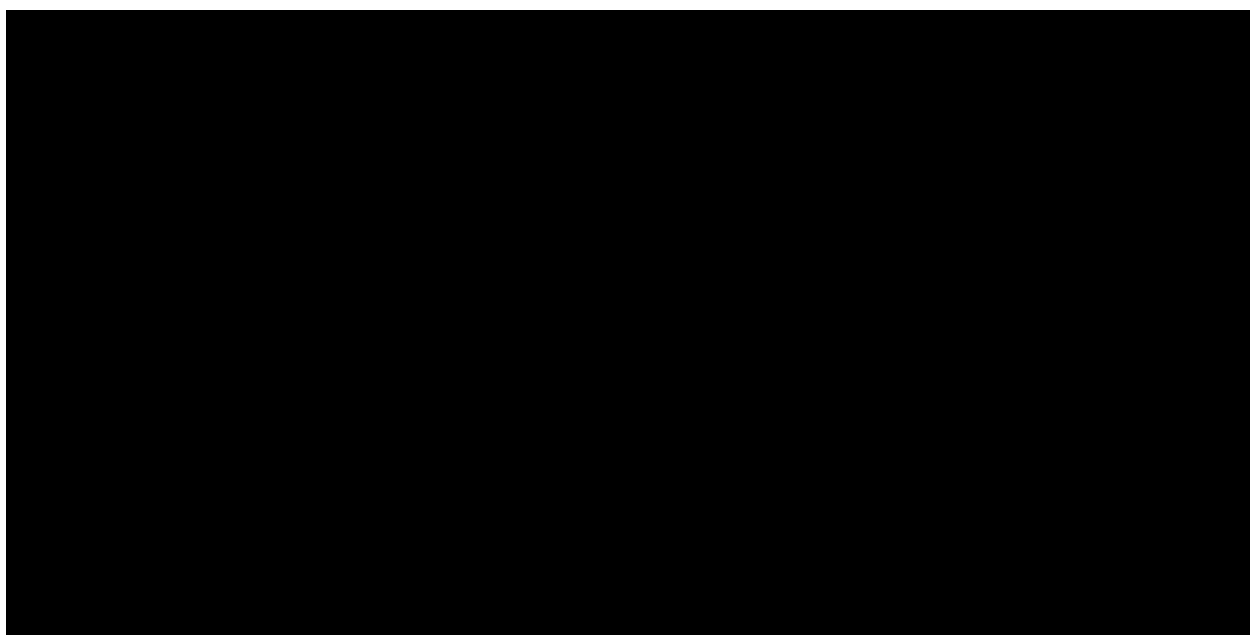
##### **[REDACTED]** *efficiency gain across key activities within the Telstra Operations Business Unit*

In line with business unit targets, it has been assumed that there will be a [REDACTED] efficiency gain across certain activities within Telstra Operations. This target applies to network maintenance contracts, Telstra's engineering workforce, IT services and internal labour within the TSO line of business. It is important to note that these targets are not necessarily reflective of what has been achievable in practice, but rather reflect management objectives to drive business productivity and reduce costs. Telstra considers this to be an ambitious target, but has nonetheless incorporated it in its forecast of expenditure associated with these activities.

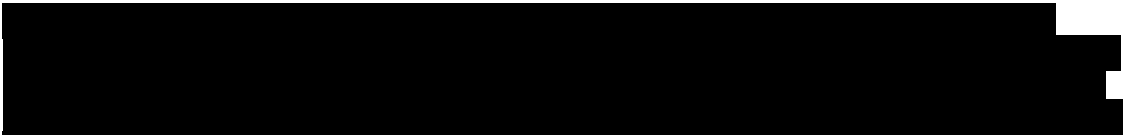
##### *Moderate growth in labour costs*

Telstra has forecast annual growth in labour costs for the forthcoming regulatory period to be [REDACTED]. This forecast is conservative, when compared against previous corporate planning targets, Telstra's historic growth in labour costs as well as observed trends in relevant economy-wide data for relevant labour types (see Figure 24 below). The nature of the corporate planning process is inherently a mix of forecasting and target setting. Telstra is committed to the effective management of year on year rises in wages and salaries as part of a broader program targeting labour productivity and cost control. This commitment is reflected in the planning target. Recent actual growth in labour costs has exceeded these forecasts. In FY2014, Telstra experienced a [REDACTED] increase in salary costs per average full time equivalent employee.

Figure 24: Historic and forecast labour cost growth<sup>53</sup>

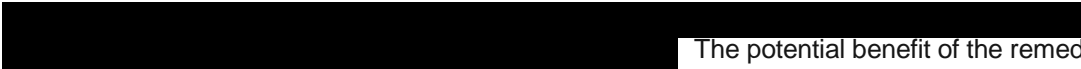


 relationship between field workforce costs and SIOs

 These are highly conservative assumptions, in the sense that they are likely to overstate the responsiveness of network maintenance costs to a decline in SIOs, considering the cost of workforce adjustments and the loss of scale efficiencies.

*Slowdown in fault rate growth as a result of remediation work*

Network fault rates have increased consistently over the past decade. The growth in fault rates is expected to continue over the FAD period, in part exacerbated by NBN rollout and migration and associated activity. However, Telstra is forecasting that the growth in fault rates will be partially offset by proposed capital programs to replace and improve certain joint enclosures in the network.

 The potential benefit of the remediation program has been forecast based on extrapolations of trial sites and limited initial implementation in FY2014. It is uncertain whether these forecast improvements will be achievable at scale and within the program budget.

*General energy efficiency measures to reduce energy usage by one percent per annum*

Energy usage associated with the fixed line assets is assumed to decline by 1% per annum over the next five years, as Telstra improves the energy efficiency of its network equipment. This assumed reduction is in addition to anticipated reductions in energy usage due to SIO decline (see below). The assumed per annum reduction in energy usage is significantly higher than what has been achievable in practice – for example in FY2014, Telstra's electricity consumption fell by only

<sup>53</sup> ABS wage price index is the seasonally adjusted index of total hourly rates of pay excluding bonuses for a weighted grouping of Construction, Information Media and Communications and Retail industries, reflecting Telstra's workforce make-up.



0.2%.<sup>54</sup> However, for the purposes of forecasting network electricity costs, it is conservatively assumed that a 1% per annum reduction in usage will be achieved.

*Further reductions in energy usage associated with SIO decline*

In addition to the assumed general reduction in energy usage referred to above, it also assumed that some network equipment can be depowered as demand for network services declines. This includes DSLAMs and certain switching equipment. In the case of DSLAMs, Telstra has no immediate business plans to depower this equipment, and has not forecast the cost of doing so (therefore, any costs of depowering, and moving end users between DSLAMs have not been factored into the expenditure forecast). Nonetheless, Telstra has conservatively assumed that DSLAM power usage can be reduced by 2.5% per annum, with no associated depowering costs. Similarly, it has been assumed that certain switching equipment can be depowered as demand for services using that equipment declines.

*Proportional reduction in Telstra Wholesale's costs associated with the supply of the regulated fixed line services*

Costs incurred by the Telstra Wholesale business unit in the supply of the regulated fixed line services are forecast to decline in proportion with the decline in demand for these services. This is a highly conservative assumption as it assumes that costs related to product development, maintenance, customer management and marketing are scalable and can be efficiently reduced in line falling demand.

*Overhead and support cost proportions to remain steady*

Telstra's forecast of overhead and support costs assumes that these costs will remain relatively steady as a proportion of total operating costs. This means that as total operating costs decline, overhead and support costs will decline at the same rate.

Each of the above assumptions is discussed in more detail in the accompanying Forecast Model Documentation (Appendix 4).

## 7.5.5 Conclusion

For the reasons set out above, Telstra considers that its revised forecasting methodology results in forecasts of operating expenditure which reflect prudent and efficient costs.

Telstra has very strong incentives to spend efficiently, and it has achieved significant efficiency gains over the FY2011-14 period. Therefore FY2014 actual costs represent prudent and efficient costs for that year. Telstra has further refined its approach to the calculation of relevant operating expenditure to ensure only those costs that are relevant are captured and then used as the basis for future forecasts.

The prudence of Telstra's approach to estimating relevant operating expenditure is also evidenced by the decision to net off TUSMA subsidies for the provision of the Standard Telephone Service. This decision effectively reduces relevant operating expenditure by \$123 million per annum.

Telstra's forecasting methodology also assumes that a significant proportion of relevant expenditure is effectively variable and will be able to reduce proportionally to declines in demand as the NBN rollout occur. Telstra's forecasting methodology also assumes that further efficiency gains and cost savings can be achieved over the FY2015-19. As discussed above, Telstra's assumptions as to future efficiency gains are highly conservative, in the sense that the scope for further cost savings generally either reflect corporate targets (rather than historic performance) or otherwise exceeds historic trends with respect to particular cost reduction activities.

<sup>54</sup> Telstra, Bigger Picture 2014 Sustainability Report – Environmental Stewardship, p 11.

## 8. Capital expenditure forecast

This section outlines the framework used by Telstra to forecast its capital expenditure requirements for the fixed line network. This framework is set out in more detail in the accompanying Forecast Model (Appendix 3) and Forecast Model Documentation (Appendix 4).

The Fixed Principles require that forecast capital expenditures reflect prudent and efficient costs. The Fixed Principles also identify certain matters which are relevant to whether forecast capital expenditures reflect prudent and efficient costs, including:<sup>55</sup>

- the access provider's level of capital expenditure in the previous regulatory period;
- reasons for proposed changes to capital expenditure from one regulatory period to the next regulatory period;
- whether the access provider's asset management and planning framework reflects best practice; and
- any relevant regulatory obligations, or changes to such obligations, applicable to providing the relevant declared fixed line services.

Telstra believes that its forecasting framework produces capital expenditure forecasts which reflect the costs of a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering the fixed line services. As discussed below and in Appendix 4, Telstra has used a robust methodology for forecasting capital expenditure, which takes into account relevant impacts from NBN rollout and other factors affecting expenditure requirements.

### 8.1 Overview of Telstra's approach

Telstra adopts a "bottom up" or "project-level" approach to preparing forecasts of capital expenditure. This process is described in detail in the RKR Response.<sup>56</sup>

Capital expenditure projects are grouped in Telstra's Investment Management Business Planning Database under program-specific codes known as Investment Management Committee (IMC) codes. Within each IMC Code, capital expenditure is further broken down into individual asset codes which can be mapped to the asset categories used in the FLSM.

Forecasts of capital expenditure are based on historic actual expenditure in the relevant project categories. Trend adjustments are applied to historic expenditure to reflect expected trends in network augmentation and renewal requirements over the next five years. The trend adjustments that are applied reflect the expected impact of changes in demand for fixed line services on capital expenditure requirements over this period.

### 8.2 Revisions to forecasts submitted as part of the RKR Response

The capital expenditure forecasts submitted as part of the RKR Response were based on the best information available at that time regarding the likely impact of NBN rollout.

Since providing the RKR data, there have been changes to the rollout timetable and the network architecture for the NBN. Updated forecasts have therefore been developed, taking into account the most recent information on NBN rollout, and using a forecasting approach which accurately accounts for the impact of expected changes in demand.

<sup>55</sup> Fixed Principles, clause 6.10.

<sup>56</sup> Telstra, *Final Access Determinations (FADs) Inquiry – confidential response to information request under the BBM RKR*, 25 November 2013.

Telstra has also made three further revisions to its capital expenditure forecasts, since submitting its RKR Response:

- first, the forecast has been 're-based' using actual expenditure for FY2014;
- secondly, capitalised interest has been removed from forecast capital expenditure, so that these forecasts can be used in the FLSM. As noted by the ACCC in its Discussion Paper, the forecasts included in the RKR Response included an allowance for capitalised interest. This is because Telstra's accounting systems attribute capitalised interest to capital projects until such time as they are completed, and so capital expenditure associated with fixed network asset classes (as recorded in Telstra's accounting systems) includes capitalised interest amounts. However Telstra recognises that for the purposes of forecasting capital expenditure for use in the FLSM, capitalised interest should be removed;<sup>57</sup> and
- finally, a forecast of NBN-related capital expenditure associated with remediation of duct infrastructure has been added. NBN-related expenditure was not included in the capital expenditure forecasts submitted as part of the RKR Response. However this expenditure is clearly attributable to the fixed line network assets (specifically, duct and pipe assets) and therefore must be included in the asset base. Further, given that an increasing share of duct costs will be allocated to NBN Co as their usage of the duct network increases, it is appropriate that expenditure associated with remediation of this network for their use is included in the overall cost base.

The methodology used to revise capital expenditure forecasts is described in more detail below and in Appendix 4.

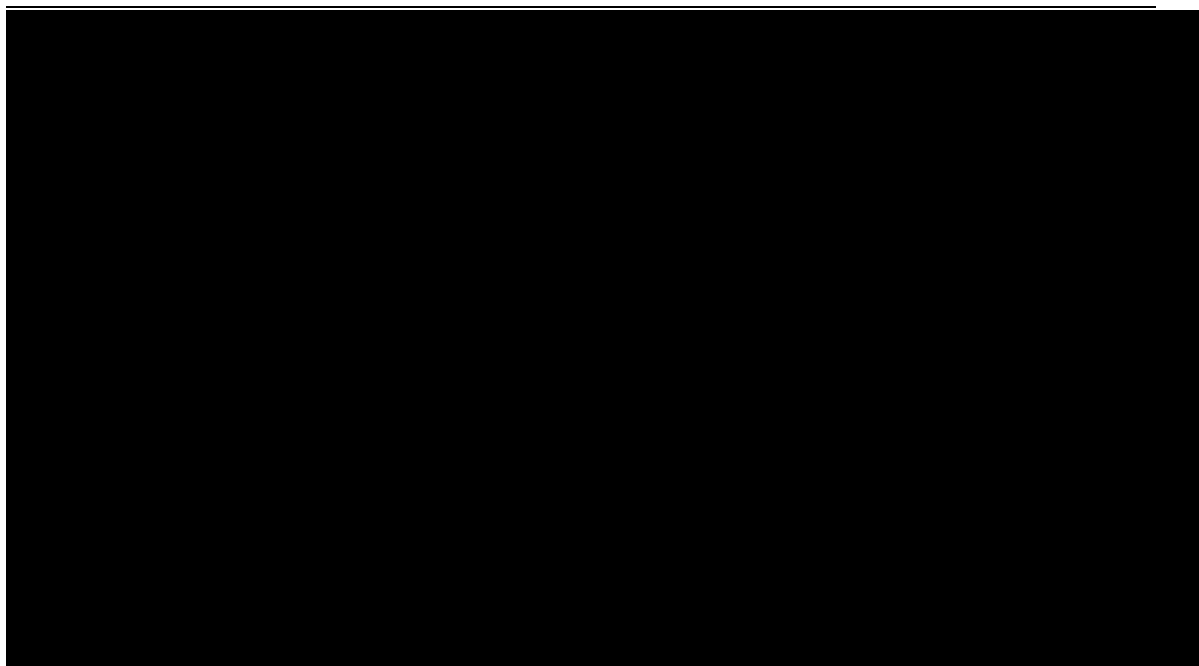
### 8.3 Comparison of FY2014 actual capital expenditure (base year) to BBM RKR forecasts

As noted above, Telstra has re-based its capital expenditure forecasts by updating the FY2014 forecasts that were set out in the 2013 BBM RKR response with FY2014 actual expenditure data.

In broad terms, Telstra has employed the same methodology used in the preparation of the 2013 BBM RKR response in the preparation of the FY2014 actual expenditure data. Figure 25 sets out the comparison between the BBM RKR forecasts and actuals for FY2014 operating expenditure.

<sup>57</sup> Under a BBM approach, a return on capital is allowed for from the time at which the relevant capital expenditure is rolled into the RAB. Since Telstra's capital expenditure forecasts are prepared on an 'as-incurred' basis, this means that a return on capital is effectively allowed for from the time the relevant capital expenditure is forecast to be incurred. Therefore when determining regulated prices under a BBM approach, a separate allowance for capitalised interest is not required.

Figure 25: Differences between 2013 BBM RKR FY2014 capex forecast and FY2014 actuals



From the above, it can be observed that:

- Capital expenditure assigned under the Demand funding program was [REDACTED] higher in FY2014 than forecast. This reflects higher than budgeted expenditure across a number of IMC programs, as well as adjustments to the allocation of particular capital expenditure program funding to asset classes compared to budget allocations. Similar reasons are also responsible for the observed variation in actual AROS and Discretionary capital expenditure compared to the prior forecasts.
- The major difference between the BBM RKR forecasts and actual capital expenditure for FY2014 is the inclusion of NBN related capital expenditure. NBN related capital expenditure has been included as this expenditure is required for NBN Co's use of the duct network and other fixed line network facilities. In order to capture NBN Co's usage of these assets – for the purposes of estimating usage-based cost allocators on a fully allocated cost basis – it is therefore necessary to also capture and forecast these relevant costs.
- A further difference arises due to the removal of capitalised interest.

#### 8.4 Trend adjustments applied in revising forecasts for FY2015-19

In light of changes to the NBN rollout timetable, Telstra has revised its approach to forecasting capital expenditure for FY2015-19. As the rate of customer migration off Telstra's fixed line network is now likely to be faster than had previously been anticipated, it has been necessary for Telstra to revisit its approach to forecasting the impact of this decline in demand on its network expenditure requirements. In some cases, this has involved more explicitly accounting for likely impacts of declines in demand on network expenditure requirements.

In revising its forecast of capital expenditure for FY2015-19, Telstra has undertaken the following steps:

- capital expenditure in the base year was broken down by the key drivers of expenditure requirements (as described in Telstra's RKR Response) and by asset class;

- within each driver category, the specific drivers of expenditure for each asset class were identified;
- the best available information on NBN rollout, input costs and other relevant aspects of the operating environment was collected; and
- appropriate trend adjustments were made to account for the impact of NBN rollout and other factors on expenditure drivers over the forecast period.

For the majority of expenditure, two types of trend adjustment were applied:

- an historic trend factor, reflecting observed historic trends in expenditure in relevant asset classes; and
- an NBN trend factor, reflecting expected reductions in capital expenditure requirements due to NBN rollout for those asset classes for which expenditure was assumed to be directly impacted by the NBN rollout.

These two trend factors were applied separately, meaning that where adjustments are made to account for NBN rollout, they are additional to the historic trend adjustments.

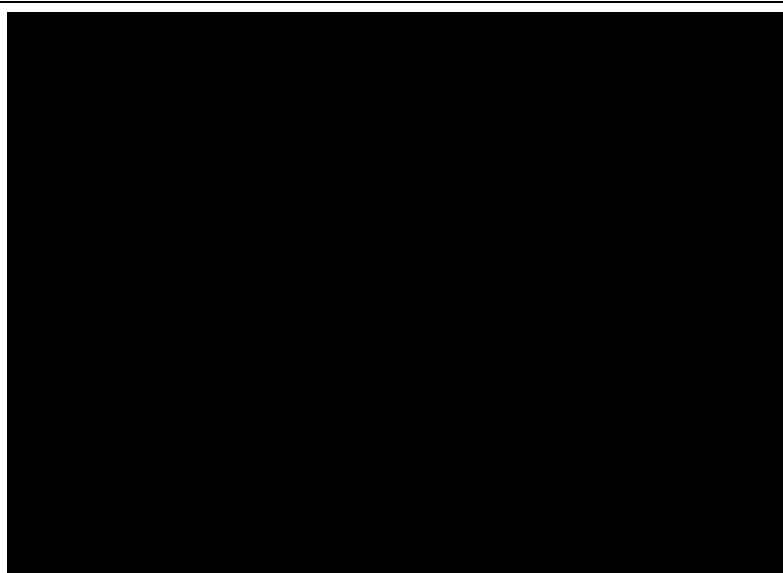
A detailed description of the trends applied in developing the revised capital expenditure forecasts is set out in Appendix 4.

## 8.5 Revised capital expenditure forecasts for FY2014-2019

The revisions made to Telstra's capital expenditure forecasts since the RKR Response have led to a significant overall reduction in the amount forecast for the forthcoming five-year period.

Forecast capital expenditure associated with the fixed line network is now expected to decline by around [REDACTED] in real terms between FY2014 and FY2019 (Figure 26).

**Figure 26: Capital expenditure forecast, NBN Rollout Base Case FY2014-FY2019**



The overall reduction in capital expenditure requirements is largely driven by the expected decline in demand for fixed line services. In particular, for demand-driven and asset replacement / operational support (AROS) capital expenditure associated with the CAN, there is expected to be significant reduction in expenditure requirements as demand for fixed line services declines – for example, demand-driven CAN expenditure is forecast to fall from [REDACTED] in FY2014 to just



### 8.6.1 Relevant regulatory obligations

As discussed above (section 7.5.1) and in the RKR Response, Telstra is subject to a number of regulatory obligations in relation to network reliability, service standards and provisions of new connections.<sup>59</sup>

While these obligations have not materially changed since the last FAD review, compliance with these obligations continues to be a major driver of fixed line network capital expenditure.

### 8.6.2 Efficiency incentives faced by Telstra

Telstra faces very strong incentives to ensure that all its capital expenditure is prudent and efficient, and that mandated reliability standards and service levels are met at least cost.

As noted above, the vast majority of Telstra's revenue is derived from services which are not price-regulated. As a result, Telstra faces competitive pressure to reduce costs wherever possible (subject to regulatory obligations), as any cost reductions directly contribute to Telstra's competitiveness and improve its overall financial performance. On the other hand, any inefficiency or imprudent spending will clearly be detrimental to the business' performance.

Further, to the extent that Telstra does derive revenue from price-regulated services, the determination of these prices is not based on its actual expenditure (rather, it is based on forecast expenditure). This means that Telstra effectively keeps the benefit of any efficiency gains that it makes, and bears the cost of any inefficient or imprudent spending. In short, Telstra has no incentive to 'gold plate' or spend inefficiently. The fact of the NBN rollout, and the transition of customers from the fixed line network to the NBN is a further constraint on any incentive Telstra could conceivably have to spend inefficiently – particularly with respect to those assets that will be directly impacted by the NBN.

One of the reasons for the ACCC not allowing for 'unders and overs' adjustments for capital expenditure is that this is seen to promote efficient expenditure by Telstra. The ACCC stated:<sup>60</sup>

*"The ACCC proposes to adopt an efficiency benefit sharing scheme, similar to the schemes used by the AER in regulating electricity distribution and transmission providers. These schemes provide that any under-expenditure during the regulatory period is not recouped through price reductions in the next regulatory period (or refunds on prices paid during the period), and no compensation can be claimed for any over-expenditure during the period. That is, no adjustments will be made for 'unders or overs' in actual expenditure, compared to forecast expenditure, during the regulatory period.*

*Where the under-expenditure reflects efficiency improvements by Telstra, it will have an incentive to improve its efficiency because it retains the capital expenditure savings until the end of the regulatory period. Likewise, it will bear the cost of higher than forecast expenditure caused by inefficiencies (through lower profits)."*

As a result of the strong efficiency incentives imposed by Telstra's operating environment and by the regulatory regime, it is expected that Telstra's actual capital expenditure will reflect prudent and efficient costs. In other words, efficient levels of capital expenditure will be revealed over time, through Telstra's actual expenditure.

<sup>59</sup> Telstra, *Final Access Determinations (FADs) Inquiry – confidential response to information request under the BBM RKR*, 25 November 2013, p 41.

<sup>60</sup> ACCC, *Public inquiry to make final access determinations for the declared fixed line services: Discussion paper*, April 2011, p 82.



### 8.6.3 Telstra's asset management and planning framework

As explained in the RKR Response, Telstra has robust internal processes that are designed to ensure that all capital expenditure (including capital expenditure associated with the fixed line network) is prudently incurred.

These include:<sup>61</sup>

- approval of an overall capital expenditure envelope by the board and the IMC;
- allocation of capital expenditure budget between business units in order to maximise overall profitability;
- requirements for capital expenditure projects to be supported by a robust business case. Business cases must be clearly linked to Telstra's physical, financial and performance targets, and in order to gain approval must meet certain financial hurdles;
- a capital management governance structure involving review and oversight of business cases by specialist committees; and
- processes for the ongoing review and monitoring of approved capital expenditure projects. Project owners are responsible for ensuring that spend does not exceed funds released and for delivering the project on time, on scope and within budget. If it becomes clear that a project will vary from the original business case by 10% or more, or if the scope of the approved business case is expected to change materially, business cases are required to be re-submitted.

Having regard to these matters, Telstra considers that its asset management and capital expenditure planning framework reflect best practice and ensure the reasonableness and prudence of any investment.

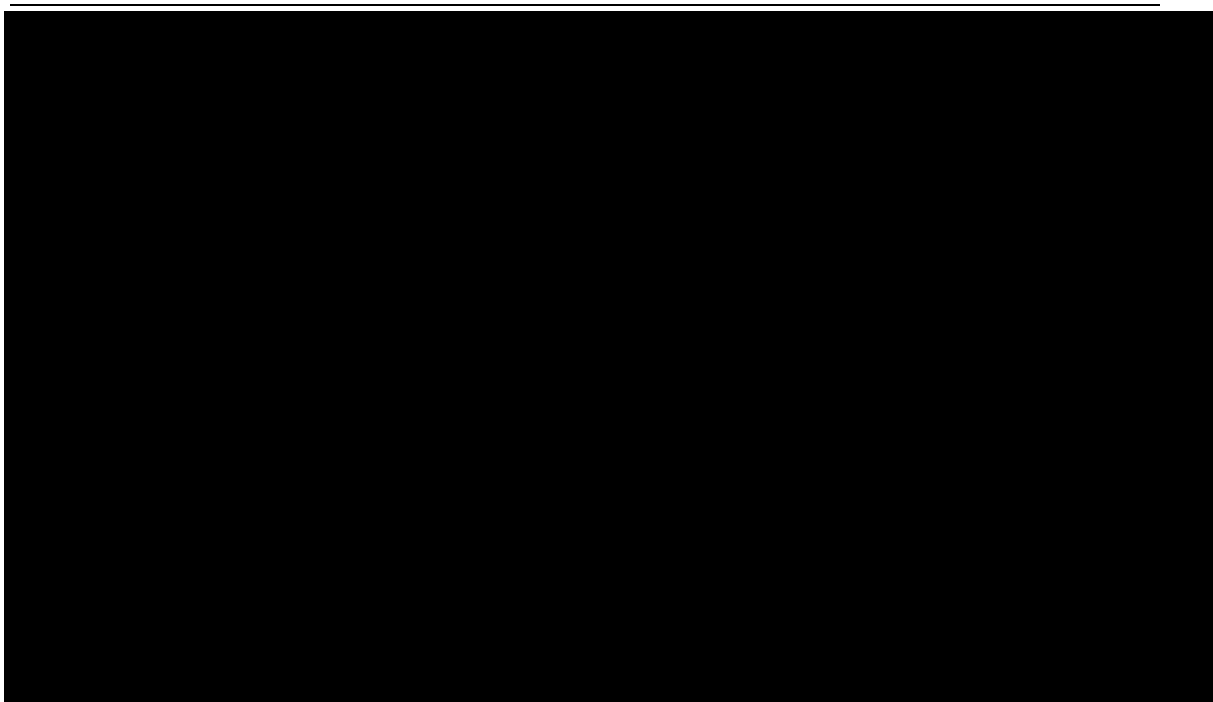
### 8.6.4 Forecast reductions in expenditure from previous period

As noted above, in forecasting capital expenditure for the forthcoming period, Telstra has applied trend factors, and an NBN impact overlay, to its historic actual expenditure. The effect of these trend factors is to significantly reduce forecast expenditure for the forthcoming period, compared to both forecast and actual expenditure in the FY2011-14 period.

Figure 27 shows the reduction in actual capital expenditure for the period FY2011 to FY2014 compared to the capital expenditure forecasts. This comparison compares the forecast aggregate expenditure of IMC programs used in the preparing the capex forecasts to the historic expenditure on those same programs. To be clear, the data for past period capital expenditure only reflects those IMC programs that were ongoing in FY2015 (and are therefore used as the basis of the capital expenditure forecasts). As such, this comparison understates the reduction in forecast capital expenditure compared to past period capital expenditure, as any capital program that was underway during that prior period, but was completed prior to FY2014 is excluded from this analysis. Nevertheless, on an IMC-consistent basis, under the NBN Rollout Base Case, relevant capital expenditure is forecast to decline by over [REDACTED] in real terms by FY2019 compared to FY2014.

<sup>61</sup> Telstra, *Final Access Determinations (FADs) Inquiry – confidential response to information request under the BBM RKR*, 25 November 2013, pp 37-41.

Figure 27: Actual capital expenditure for FY12-FY14, compared to forecast for FY15-FY19



The above chart also illustrates that the forecast decline in capital expenditure is [REDACTED] if NBN related capital expenditure is excluded. This further emphasizes the size of the forecast reductions Telstra is making to capital expenditure outlays for the fixed line network assets, compared to past periods.

These significant reductions in capital expenditure are premised on Telstra achieving significant savings as a result of customer migration to the NBN which are entirely additional to what is reflected in historic expenditure trends. For example:

- for the ducts and pipes asset class, based on historic trends it is assumed that demand-driven capital expenditure will fall by [REDACTED] over the forecast period, from [REDACTED] in FY2014 to [REDACTED] in FY2019. In addition, it is assumed that the reduction in fixed line services demand associated with NBN rollout will reduce expenditure by a further [REDACTED] over the forecast period, reducing expenditure in this category to just [REDACTED] by FY2019; and
- similarly, for copper cables, based on historic trends it is assumed that demand-driven capital expenditure will fall by [REDACTED] over the forecast period, from [REDACTED] in FY2014 to [REDACTED] in FY2019. In addition, it is assumed that the reduction in fixed line services demand associated with NBN rollout will reduce expenditure by a further [REDACTED] over the forecast period, reducing expenditure in this category to just [REDACTED] by FY2019.

The assumption underlying these forecast reductions in capital expenditure is that Telstra will be able to make further reductions in its capital expenditure below historic trend levels, [REDACTED]. This is likely to be a highly conservative assumption, in the sense that it will almost certainly overstate the extent to which Telstra can effectively reduce its capital expenditure (and the timing in which these reductions can be made) as customers migrate to the NBN.

Each of the assumptions underpinning Telstra's capital expenditure forecast methodology is discussed in more detail in the accompanying Forecast Model Documentation (Appendix 4).

### 8.6.5 Conclusion

For the reasons set out above, Telstra's forecasting methodology will result in forecasts of capital expenditure which reflect prudent and efficient costs.

Telstra has strong incentives to spend efficiently, and has in place an asset management and planning framework which ensures prudence of any investment.

Further Telstra's forecasting methodology assumes that significant cost savings can be achieved over the FY2015-19 period. As discussed above, Telstra's assumptions as to future efficiency gains are highly conservative, in the sense that the scope for further cost savings is likely to be overstated.

## 9. RAB roll-forward

### 9.1 Opening RAB for FY2015

The Fixed Principles require that the initial value of the RAB be fixed, with only certain specified adjustments to be made between regulatory periods. After the opening RAB value and opening tax asset value are set, they are 'locked in' and rolled forward each year to reflect forecast capital expenditure, depreciation and asset disposals.

The roll-forward mechanism in the Fixed Principles involves calculating the closing RAB value for each year by taking that year's opening RAB and adding the forecast for capital expenditure incurred that year and subtracting depreciation and asset disposals for the year. The opening RAB value for any regulatory year is equal to the closing RAB value for the previous year.

The Fixed Principles further provide that:

- in rolling forward land asset values, these values are indexed by CPI where available (or by the forecast for the CPI used in the FLSM where the actual CPI is not available) to account for appreciation over time in land values; and
- in rolling forward RAB values in nominal terms, that is, in the current dollars as at 1 July of the relevant year, any variables that are specified in real terms will be indexed by the actual CPI where available (or by the forecast for the CPI used in the FLSM where the actual CPI is not available) to convert them into nominal terms. Any variables that are specified in nominal terms will not be indexed, with the exception of land values as specified above.

In line with the Fixed Principles, the opening RAB for the next regulatory period is calculated by rolling forward the value established in the 2011 FAD. This involves adding capital expenditure which was forecast to be incurred over the FY2011-14 period, and subtracting depreciation and asset disposals.

The RAB roll-forward calculation is set out in Table 9 below.

**Table 9: RAB roll-forward calculation (\$ million, FY2009)**

	FY12	FY13	FY14
<b>Opening RAB</b>	████	████	████
<b>Capital expenditure</b>	████	████	████
<b>Asset disposals</b>	████████████████████		
<b>Depreciation</b>	████	████	████
<b>Closing RAB</b>	████	████	████

As set out in Telstra's response to the 2013 BBM RKR, there was a significant difference between Telstra's actual expenditure in FY2011-14 period and the amount forecast at the time the FADs were made for that period. As explained in Telstra's response to the BBM RKR Notice, the reasons for this difference include:<sup>62</sup>

<sup>62</sup> Telstra, *Final Access Determinations Inquiry – confidential response to information request under the BBM RKR: Comparison Statement*, 25 November 2013, section 2.3.

- **Unforeseen capital expenditure requirements:** Telstra undertook capital expenditure on several unforeseen projects during the FY2012-14 period. These included the South Brisbane exchange project which in total accounted for approximately [REDACTED] of capital expenditure.
- **Shortcomings in forecast methodology used in the 2011 FAD inquiry:** The forecast methodology used in the 2011 FAD inquiry did not fully account for trends up and/or down in capital expenditure over time. This methodology also did not account for work in progress (WIP) values for specific projects. As discussed later in this submission, Telstra has substantially revised and improved its capital expenditure forecast methodology to address these issues (refer to sections 5 and 6 below, and to Appendix 4).

Telstra notes that in other regulated industries where a BBM approach is applied to determine revenue allowances and tariffs, the RAB is usually “trued up” at the end of each regulatory period – i.e. the opening RAB for each new period is calculated based on actual expenditure in the prior period (subject to an *ex post* prudency review in some cases), rather than capital expenditure that was forecast for that period.<sup>63</sup> It has been observed that this approach reduces any disincentive that may otherwise exist for a regulated business to undertake capital expenditure in excess of forecast, where such expenditure is necessary and efficient.<sup>64</sup>

However, Telstra understands that, when the Fixed Principles were established, the ACCC intended that the fixed line services RAB be rolled forward based on forecast capital expenditure, not actual expenditure. Telstra understands that in taking this approach, the ACCC intended to provide incentives for Telstra to improve the efficiency of its capital expenditure.

Consistent with the ACCC’s original intention, Telstra has calculated the opening RAB for FY2015 based on forecast capital expenditure during the FY2012-14 period, rather than actual capital expenditure. Clearly, calculating the opening RAB based on forecast capital expenditure results in a lower RAB value ([REDACTED] less than what it would otherwise be) and lower service prices, than would be the case if actual capital expenditure were to be used. However, in order to maintain consistency with the ACCC’s intention, Telstra has calculated the RAB values in Table 9 above on the basis of forecast expenditure.

## 9.2 Forecast asset disposals

The Fixed Principles require that the RAB be adjusted each year for asset disposals.<sup>65</sup>

In accordance with the requirements of the Fixed Principles, Telstra proposes to adjust the RAB in each year of the forthcoming regulatory period to account for forecast asset disposals in the previous year. This will include any assets that are expected to be transferred to NBN Co as part of the migration of customers under the DAs.

This section sets out Telstra’s proposed approach to accounting for asset disposals, and provides a forecast of asset disposals for the forthcoming regulatory period.

### 9.2.1 Approach to accounting for asset disposals

Telstra proposes to treat as an asset disposal any asset included in the RAB that is transferred to NBN Co under the DAs, and which is no longer contributing to the supply of fixed line services. Specifically, this will include copper cables expected to be required by NBN Co for rollout in FTTN areas.

<sup>63</sup> For example under the NER and NGR, the opening RAB for each period is calculated on the basis of actual expenditure in the prior period, subject to *ex post* review for prudency and efficiency in certain circumstances (NER, clauses S6.3.1(e) (for distribution) and S6A.2.1(f) (for transmission); NGR, rule 77(2)).

<sup>64</sup> See, for example: AEMC, *Review of the electricity transmission revenue and pricing rules – Transmission revenue rule proposal report*, February 2006, p 86.

<sup>65</sup> Fixed Principles, clause 6.7(a).

However it will not include assets which are being used by NBN Co and for which lease payments are being received, but which are also continuing to contribute to the supply of fixed line services. Where certain assets such as ducts and exchange buildings are being used to provide both fixed line services and NBN services, NBN Co's usage of these assets will be accounted for through the cost allocation factors for those assets (refer to Part E of this submission). These assets cannot be treated as being 'disposed of' if they are continuing to contribute to the supply of fixed line services.

## 9.2.2 Approach to valuing asset disposals

The Discussion Paper states that if the transfer of assets from Telstra to NBN Co is treated as an asset disposal, the amount deducted from the RAB could be either equal to the value of the asset transferred to NBN Co as reflected in the RAB or equal to the payments from NBN Co for the transfer of that asset.

Telstra disagrees that the amount of any payments received from NBN Co could be used for the purpose of valuing asset disposals, for three reasons:

- **Inconsistent with the Fixed Principles.** Valuing asset disposals based on the amount of payments received from NBN Co would be inconsistent with the Fixed Principles which lock in the value of the fixed line assets based on their historic cost. Valuing disposals at anything other than their remaining RAB value would imply revaluing the relevant assets prior to removing them from the RAB. Such an approach is not permitted by the Fixed Principles.
- **Inconsistent with a cost-based pricing approach.** The framework for determining prices for each of the fixed line services is fundamentally a cost-based pricing approach. Therefore, in determining adjustments to the RAB or any other input into the pricing framework, what is relevant is the extent to which the underlying cost of supply has changed. In this context, the amount of revenue or payments received by Telstra from any third parties is irrelevant, as it does not impact on the cost of supply. While the fact that an asset has been transferred may be relevant, the amount received for this transfer is entirely irrelevant to an assessment of the cost of supply.
- **NBN payments do not reflect compensation for transfer of assets.** Payments from NBN Co to Telstra form part of a complex commercial agreement, covering a range of matters. These agreements embody the broad terms in exchange for which Telstra will move from being an integrated fixed line operator in direct competition with the NBN (when built) to being an access seeker on NBN Co's network. Therefore it would be an error to simply treat payments received by Telstra as compensation for the transfer of assets. These payments reflect a commercially agreed amount of compensation for Telstra to bear certain risks and obligations.

The correct approach to valuing asset disposals under the Fixed Principles is to use the remaining value of the relevant assets in the RAB at the time of disposal. This approach ensures that the adjustment that is made for asset disposals properly reflects the change in the cost base at the time of disposal. Telstra's forecasts of asset disposals for the forthcoming regulatory period (set out below) have been prepared on this basis.

## 9.2.3 Approach to forecasting timing of asset disposals associated with NBN rollout

In accounting for disposals, Telstra has assumed copper assets required for FTTN are transferred to NBN Co at the ready-for-service date for an FTTN area. Consistent with this assumption, the value of the RAB for copper cables is reduced in each year, by an equivalent proportion to the number of copper SIOs expected to be ready for service in that year (i.e. if 10% of active copper lines are declared ready for service in a given year, 10% of the remaining RAB value for copper cables is deducted from the RAB).

## 9.2.4 Forecast asset disposals for FY2015 – FY2019

Telstra's forecast asset disposals for the forthcoming regulatory period, based on current expectations as to the NBN rollout timetable, are summarised in Table 10 below.

**Table 10: Forecast asset disposals (\$FY2009)**

Regulatory year	Asset disposals
2014-15	
2015-16	
2016-17	
2017-18	
2018-19	

As noted above, Telstra recognises that further information on NBN rollout may become available during the course of the FAD inquiry, and that it will be necessary to take this more up-to-date information into account. Telstra will work with the ACCC to update its forecast asset disposals, should further information on the NBN migration timetable come to light during this FAD inquiry.

## 9.3 Forecast regulatory depreciation

Telstra proposes to determine the annual amount of regulatory depreciation for each asset class by applying the straight-line depreciation method to the opening regulatory value of each asset class for each regulatory year. The straight-line method involves, for each asset class, dividing the opening regulatory value by the average remaining asset life to determine the amount of depreciation for that year.

The straight-line method is a highly conventional and well accepted method for calculating regulatory depreciation. It is the method that was applied by the ACCC in the 2011 FADs. It is also applied in many other regulated industries.

Telstra's proposed approach to determining asset lives for use in the FLSM is explained in the RKR Response.<sup>66</sup> Telstra generally uses the asset lives assigned to each asset class within its accounting systems, subject to some limited exceptions which are explained in the RKR Response.

## 9.4 RAB roll-forward for FY2015 – FY2019

Applying the depreciation assumptions referred to above, and based on the forecasts of asset disposals and capital expenditure set out in this submission (sections 8.5 and 9.2.4 respectively), Telstra has undertaken an indicative RAB roll-forward calculation for the FY2015-19 period. This roll-forward calculation is set out in Table 9 below.

As discussed above, the forecasts of capital expenditure and asset disposals are based on current expectations of the NBN rollout timetable. Clearly if the rollout timetable changes, these forecasts (and therefore the RAB roll-forward calculation) will need to be updated.

<sup>66</sup> Telstra, *Final Access Determinations (FADs) Inquiry – confidential response to information request under the BBM RKR*, 25 November 2013, pp 76-79.



Table 11: Indicative RAB roll-forward calculation (\$ million, FY2009)

	FY15	FY16	FY17	FY18	FY19
Opening RAB	■	■	■	■	■
Capital expenditure	■	■	■	■	■
Asset disposals	■	■	■	■	■
Depreciation	■	■	■	■	■
Closing RAB	■	■	■	■	■

## 10. Return on capital

### 10.1 Summary of proposal

The fixed principles require that the return on capital be estimated using a vanilla WACC, with the cost of equity estimated using the capital asset pricing model (**CAPM**).

Telstra proposes that the ACCC adopt a nominal vanilla WACC of 7.37 per cent for the forthcoming regulatory period. The parameter values underpinning this WACC estimate are set out in Table 12 below. The proposed estimate is based on conventional estimation methods (including the CAPM to estimate the cost of equity) and each of the parameters in this calculation reflects the best available empirical evidence.

The proposed WACC reflects the efficient cost of raising and providing a return on debt and equity capital. The return on capital aims to compensate Telstra's debt and equity holders for the opportunity cost of lending or investing their funds in the fixed line network. These funds are essential to maintain reliable and efficient supply of fixed line services to access seekers and retail customers.

The required rate of return at any point in time will depend on prevailing conditions in financial markets, and Telstra's exposure to market risk. This means that as market conditions change, or if Telstra's exposure to market risk changes, so too should the rate of return.

The required rate of return has fallen since the 2011 FADs were made, due to changes in market conditions. In particular, the risk-free rate has fallen significantly. The proposed WACC is therefore lower than what was determined by the ACCC in the 2011 FADs, reflecting the change in market conditions over the past three years.

Telstra's proposed approach to estimating each WACC parameter is in line with the practice of other Australian regulators, including the AER and state-based economic regulation authorities. Telstra has only departed from regulatory practice where there is compelling evidence to support such a departure.

The remainder of this section explains the basis for Telstra's estimate of each WACC parameter.

Table 12: Proposed rate of return parameters

Parameter	Proposed value	2011 FAD value	Notes
Nominal risk-free rate	3.66%	5.16%	The risk-free rate is now significantly lower than it was in 2011, due to changes in financial market conditions.
Expected inflation	2.50%	2.55%	Expected inflation has not materially changed.
Debt risk-premium	1.40%	2.06%	The debt risk premium is also lower than it was in 2011, due to changes in financial market conditions.
Debt issuance costs	0.07%	0.08%	Debt issuance costs have not materially changed.
Market risk premium	6.50%	6%	Empirical evidence indicates that the market risk premium is now slightly higher than it was in 2011. Telstra's proposed value for the market risk premium is the same as that adopted by the AER in its Rate of Return Guideline and recent decisions.
Equity beta	0.8	0.7	Current empirical evidence supports a slightly higher equity beta than that adopted in the 2011 FADs.
Gearing	40%	40%	Telstra does not propose any change to the benchmark gearing assumption.
Gamma	0.25	0.45	Recent empirical evidence supports a value for gamma that is lower than that adopted in the 2011 FADs.
Nominal vanilla WACC	7.37%	8.54%	The overall WACC is now lower than it was in 2011, due to the lower risk-free rate and debt risk premium.
Real vanilla WACC	4.75%	5.84%	

Note: Risk-free rate and debt risk premium estimated over June 2014.

## 10.2 Risk-free rate

Telstra adopts the conventional approach to estimating the risk-free rate. This involves estimating the risk-free rate as the average annualised yield on 10-year Commonwealth Government Securities over a 20-day averaging period relatively close to the commencement of the regulatory period. This is the approach that was taken by the ACCC in the 2011 FAD inquiry<sup>67</sup> and it is the approach taken by the AER and other regulatory authorities.<sup>68</sup>

Telstra estimates the risk-free rate based on an indicative averaging period, being the 20 business days ending 30 June 2014 (inclusive). Based on this indicative averaging period, the risk-free rate is 3.66 per cent.

## 10.3 Debt risk premium

### 10.3.1 Proposed methodology for estimating the debt risk premium

Telstra also adopts a highly conventional approach to estimating the debt risk premium (**DRP**). This involves:

<sup>67</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, pp 61-62.

<sup>68</sup> AER, *Better Regulation: Rate of Return Guideline*, December 2013, p 15.

- estimating the DRP as the margin between the risk-free rate and the current yield on corporate bonds with credit rating that is reflective of risks faced by Telstra, and term of debt reflective of efficient financing practice;
- use of third party data provider to obtain estimates of relevant corporate bond yield; and
- measuring the corporate bond yield over an averaging period that is relatively close to the commencement of the regulatory period (as for the risk free rate).

Consistent with previous ACCC decisions, Telstra has used a 10-year A-rated corporate bond as the benchmark form of debt for the purposes of estimating the DRP. An A credit rating reflects the degree of risk faced by Telstra, and is consistent with Telstra's actual credit rating. A 10-year term to maturity assumption reflects the fact that for infrastructure businesses such as Telstra, efficient financing practice involves issuing long-term debt, with term at issue of around 10 years.<sup>69</sup>

Telstra notes that there are two third party sources of yield data for corporate bonds currently available – the Bloomberg BVAL source and the RBA aggregate measures of corporate bond yields. Telstra proposes to use the RBA yield data to estimate the DRP, as this is a more transparent and verifiable source and, unlike Bloomberg, does not require extrapolation.

For the purposes of this submission, Telstra estimates the DRP based on an indicative averaging period, being the 20 business days ending 30 June 2014 (inclusive). Based on this indicative averaging period, and using the RBA data source to estimate the yield on 10-year A-rated corporate bonds, the annualised yield estimate is 5.05 per cent. This implies a DRP of 1.40 per cent.

### 10.3.2 Methodology adopted by the ACCC in the 2011 FAD inquiry is no longer appropriate

Telstra notes that in the 2011 FAD inquiry, the ACCC estimated the DRP by reference to the observed yield on Telstra bonds around the time of its decision.

At the time, the ACCC noted that this was a departure from past practice. The ACCC noted that in the past, the yield on the chosen debt proxy was usually derived from a benchmark bond index obtained from a reputable financial market data source.<sup>70</sup> However the ACCC considered that there were difficulties with applying this conventional approach at the time of the 2011 FAD inquiry, because at that time there was no data source providing yield estimates for 10-year A-rated corporate bonds, and there were difficulties in extrapolating estimates from shorter maturities (e.g. estimates provided by the Bloomberg A-rated fair yield curve out to seven years).<sup>71</sup> The ACCC therefore decided to use a long-term Telstra bond as a proxy for a benchmark bond in calculating the DRP.<sup>72</sup> At that time Telstra had a number of domestically issued bonds with a term-to-maturity relatively close to ten years (a bond maturing on 15 July 2020) which could be used as the proxy.

Telstra considers that this approach is no longer appropriate for two reasons:

- unlike in the 2011 FAD inquiry, there is now a reputable financial market data source providing estimates of the yield on the chosen debt proxy. The RBA source (which was not

<sup>69</sup> Based on a recent review of financing practice of infrastructure businesses in Australia, the UK and US, PwC concludes that infrastructure businesses strive to reduce refinancing risk by increasing the term of debt at issuance and that the average term at issuance for infrastructure businesses in Australia is 10.21 years (PwC, *Benchmark term of debt assumption: Report for the Energy Networks Association*, June 2013).

<sup>70</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 67.

<sup>71</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, pp 67-68.

<sup>72</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 67.

available during the 2011 FAD inquiry) now provides yield estimates for 10-year A-rated corporate bonds; and

- there are no longer any domestically issued Telstra bonds with remaining term-to-maturity relatively close to ten years. The longest dated Telstra bond matures in October 2020, and has just over six years remaining term to maturity. Therefore even the longest dated Telstra bond would not provide a good proxy for the benchmark bond. In addition, the total value of Telstra bonds that mature in 2020 is only a fraction of the debt currently outstanding.

More generally, Telstra considers that in estimating the yield on benchmark form of debt, it is more appropriate to rely on a benchmark index where this is available, rather than yields on individual bonds from particular issuers. This is because the price (and hence yield) for an individual bond can be affected by various features of the bond issue such as the likelihood of default, expected loss given default, the size of the coupon, bid-ask spread and term to maturity. It has been noted by financial market experts that the advantage of using a benchmark indicator or index is that these factors are averaged out across the bond sample used to construct the index, and therefore a more complete picture of prevailing market conditions is obtained.<sup>73</sup>

The Tribunal has rejected methodologies which give greater weight to particular bonds issued by individual businesses on the basis that the return on debt reflect should be a benchmark measure, reflecting the costs of a benchmark efficient service provider. For example in *United Energy*, the Tribunal noted that, since the AER was seeking to determine the benchmark corporate bond rate for bonds with a particular credit rating, it was not appropriate for the AER to focus its on corporate bonds issued by individual businesses.<sup>74</sup>

### 10.3.3 AER trailing average approach is not appropriate in these circumstances

Telstra notes that the AER has recently shifted to a 'trailing average' methodology for estimating the return on debt for energy network businesses.<sup>75</sup> Under the AER's trailing average approach, the benchmark form of debt is unchanged (for energy businesses, 10-year BBB+ corporate bonds), but the relevant yield is measured as an average of historical rates rather than as a single prevailing rate. The AER will transition to its trailing average approach over a 10-year period.

Telstra sees merit in the trailing average approach, in terms of reducing volatility in return on debt estimates, and potentially aligning the return on debt estimation approach more closely with businesses' actual debt management practices.

However, Telstra does not consider it to be practical to adopt a trailing average approach for estimating the return on debt for FAD pricing, for several reasons:

- As noted above, the AER's implementation of its trailing average approach involves a 10-year transition or 'phase-in' period. This phase-in of the trailing average method is necessary to avoid potential under- or over-recovery of debt costs by businesses in the transition from 'on-the-day' measurement to use of historical averages. However this type of transitional arrangement is unlikely to be workable in the context of fixed line services regulation, given expected migration of customers to the NBN over the next decade. Indeed migration to the NBN may well be complete before the transition can be completed.
- Implementation of a trailing average approach requires a mechanism for annually updating the return on debt estimate and making consequential changes to allowable revenue and prices. The NER and NGR were amended in November 2012 to expressly allow this updating of the return on debt and allowable revenue / tariffs.<sup>76</sup> However the Fixed

<sup>73</sup> Australia Ratings, *Estimating the Debt Risk Premium: Expert opinion prepared for APT Allgas Energy Pty Limited*, March 2011, pp 8-9.

<sup>74</sup> *Application by United Energy Distribution Pty Limited* [2012] ACompT 1, [427]-[442].

<sup>75</sup> AER, *Better Regulation: Rate of Return Guideline*, December 2013, pp 19-20.

<sup>76</sup> Rule 87(12) of the NGR states that if the return on debt is to be estimated using a methodology which results in the return on debt potentially being different for different regulatory years in the access arrangement

Principles do not similarly contemplate updating of the WACC and prices within a regulatory period. Moreover, even if such updating could be accommodated under the fixed principles, this would potentially undermine price stability which, as discussed above (section 1.4), is absolutely critical in the context of migration to the NBN.

For these reasons, Telstra does not propose to adopt a trailing average methodology.

## 10.4 Debt issuance costs

The conventional approach to estimating debt issuance costs is to apply the methodology originally developed by the Allen Consulting Group (ACG)<sup>77</sup>, which has been applied in numerous regulatory determinations. This is the approach that was applied by the ACCC to determine debt raising costs in the 2011 FADs.

Telstra proposes to again apply this conventional approach to estimating debt issuance costs.

The most recent estimate of debt issuance costs for the relevant benchmark form of debt (i.e. 10-year A-rated corporate bonds) is 7.4 basis points per annum.<sup>78</sup>

## 10.5 Market risk premium

Telstra adopts a conservative approach to estimating the market risk premium (MRP). This involves reviewing all relevant evidence, and carefully balancing this evidence to derive a point estimate for the MRP.

Telstra considers that a reasonable (but conservative) estimate of the MRP at the current time is 6.5 per cent. We note that this is consistent with the AER's current view, as set out in its Rate of Return Guideline<sup>79</sup> and in recent determinations.<sup>80</sup>

Unlike the DRP, the MRP cannot be directly observed from market data, and as such, must be estimated. Estimation of the MRP must have regard to all relevant evidence, taking into account strengths and weaknesses of each source of evidence.

There are potentially a number of sources of evidence which may inform estimation of the MRP:

- historic data on average excess returns (i.e. average excess return on the market over the risk-free rate, over time);
- forward looking estimates of the market return and MRP, based on dividend growth modelling (DGM, also referred to as dividend discount model); and
- expectations of market practitioners, as reflected in surveys.

A summary of the current estimates produced by each source of evidence is set out in Table 13 below.

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period (e.g. a trailing average methodology), then a resulting change to the service provider's total revenue must be effected through the automatic application of a formula that is specified in the decision on the access arrangement for that access arrangement period. Equivalent provisions appear in the NER (clause 6.5.2(l) / 6A.6.2(l)).

<sup>77</sup> Allen Consulting Group, *Debt and Equity Raising Transaction Costs: Final Report*, December 2004.

<sup>78</sup> ACCC, *Public inquiry to make a final access determination for the Wholesale ADSL service: Final Report*, May 2013 pp 38-39.

<sup>79</sup> AER, *Better Regulation: Explanatory Statement – Rate of Return Guideline*, December 2013, pp 93-97.

<sup>80</sup> AER, *Ausgrid, Endeavour Energy, Essential Energy, ActewAGL: Transitional distribution decision 2014–15*, April 2014, p 37.

**Table 13: Empirical evidence on the MRP**

Evidence	Current estimates (from AER Rate of Return Guideline)	Notes
Historical average excess returns	5.7% - 6.3%	<p>Estimates of historical excess returns vary depending on the period used. Over the longest time period for which data is available (1883-2012), the average excess return is 6.3%. However lower estimates (between 5.7% and 6.4%) are produced for shorter sub-periods.</p> <p>The range of estimates presented here are as set out in the AER's Rate of Return Guideline Explanatory Statement, without the NERA adjustments to the underlying dataset.<sup>81</sup> As discussed below, NERA's adjustments to the underlying dataset have the effect of increasing the MRP estimates.</p>
Dividend growth model	6.7% - 7.5%	<p>The range of estimates presented here are as set out in the AER's Rate of Return Guideline Explanatory Statement, based on its three-stage DGM.<sup>82</sup> The range of estimates reflects the AER's sensitivity testing of its model, using a range of growth assumptions.</p>
Survey evidence	Around 6%	<p>The AER notes in its Return Guideline Explanatory Statement that the most commonly reported MRP value in surveys is 6%.<sup>83</sup></p> <p>However, the most recent survey identified by the AER indicates a mean MRP of 6.8%.<sup>84</sup></p>

Telstra agrees with the AER that the evidence presented in Table 13 above supports an MRP of 6.5 per cent.

However, Telstra considers that 6.5 per cent is likely to be a conservative estimate of the MRP. This is because the AER's estimated values from each evidence source are themselves highly conservative, and also because the AER does not take into account some other evidence sources which produce higher estimates. In particular:

- The historic data used by the AER to estimate average excess returns does not incorporate adjustments recommended by NERA to account for inaccuracies in previous data compilations.<sup>85</sup> As noted by the AER Rate of Return Guideline Explanatory Statement, the adjustments recommended by NERA have the effect of increasing the estimates historical excess returns.<sup>86</sup> With these adjustments, the average excess return over the longest time period for which data is available is 6.6 per cent (compared to 6.3 per cent without adjustments to the dataset)
- The AER does not appear to take into account estimates using the 'Wright approach' in determining its point estimate of the MRP. The Wright approach relies on the same

<sup>81</sup> AER, *Better Regulation: Explanatory Statement – Rate of Return Guideline*, December 2013, Appendix D, p 83.

<sup>82</sup> AER, above n 81, p 87.

<sup>83</sup> AER, above n 81, p 92.

<sup>84</sup> Fernandez, Aguirreamalloa and Linares, *Market Risk Premium and Risk Free Rate used for 51 countries in 2013: a survey with 6,237 answers*, IESE Business School, June 2013.

<sup>85</sup> NERA, *The market risk premium, analysis in response to the AER's draft rate of return guideline: A report for the Energy Networks Association*, 11 October 2013.

<sup>86</sup> AER, above n 81, p 83.



historical data used to estimate average excess returns, and uses this to estimate a long-term average overall market return. The historical average market return can be used to derive an alternative estimate of the MRP, by subtracting the current risk-free rate. The AER estimates the long-term average nominal market return to be between 9.9 per cent and 12.7 per cent (depending on the time period used).<sup>87</sup> Given a current risk-free rate of 4.1 per cent, this implies a range for the MRP of 5.8 - 8.6 per cent, based on the 'Wright approach'.

- While the AER estimates a range for the MRP using the DGM of 6.7 - 7.5 per cent, other experts have estimated higher values using alternative versions of the DGM. For example, SFG estimated an MRP of 7.9 per cent using an alternative version of the DGM which did not require any assumption to be made as to future dividend growth.<sup>88</sup> Separately, the AER's consultant Professor Martin Lally estimated a range for the MRP of 5.9 per cent - 8.4 per cent, using the DGM with alternative input assumptions.<sup>89</sup>
- As noted above, the most recent survey evidence (the Fernandez et al 2013 study) indicates an average MRP among survey respondents that is significantly above 6 per cent.<sup>90</sup>
- Current evidence indicates that the prevailing MRP is likely to be above its long-term average. As noted above, current estimates of the MRP from DGM analysis are around 7 per cent based on the AER's analysis, and around 8 per cent based on the alternative version of the DGM recommended by SFG. These DGM estimates are higher than long-term average MRP estimates. As noted by the AER, DGM-based estimates of the MRP are more likely to reflect prevailing market conditions, compared to other approaches.<sup>91</sup>

For all these reasons, Telstra considers that 6.5 per cent is a highly conservative estimate of the MRP at the current time.

## 10.6 Asset and equity beta

In its 2010 review of access pricing principles and subsequent 2011 FAD inquiry, the ACCC applied an equity beta of 0.7, based on an estimated asset beta of 0.42.<sup>92</sup> Prior to the 2010 review of access pricing principles, the ACCC had applied an equity beta of 0.8 and asset beta of 0.5.<sup>93</sup>

Telstra considers that an equity beta of 0.7 is no longer appropriate, as it does not reflect the degree of systematic risk faced by Telstra in supplying fixed line services. The equity beta should be increased to at least 0.8, in order to properly compensate Telstra for this risk exposure.

### 10.6.1 Telstra's exposure to systematic risk is significantly greater than other regulated utilities

Telstra notes that an equity beta of 0.7 would be towards the lower end of the range of equity beta values for regulated infrastructure businesses in Australia. An equity beta of 0.7 would be:

<sup>87</sup> AER, *Better Regulation: Explanatory Statement – Rate of Return Guideline*, December 2013, Appendix B, p 28.

<sup>88</sup> SFG, *Dividend discount model estimates of the cost of equity*, 19 June 2013.

<sup>89</sup> Lally, *The Dividend Growth Model*, 4 March 2013.

<sup>90</sup> Fernandez, Aguirreamalloa and Linares, *Market Risk Premium and Risk Free Rate used for 51 countries in 2013: a survey with 6,237 answers*, IESE Business School, June 2013.

<sup>91</sup> AER, *Better Regulation: Explanatory Statement – Rate of Return Guideline*, December 2013, Appendix D, p 85.

<sup>92</sup> ACCC, *Review of the 1997 telecommunications access pricing principles for fixed line services: Draft report*, September 2010, pp 70-73; ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, pp 64-66.

<sup>93</sup> For example: ACCC, *Assessment of Telstra's Unconditioned Local Loop Service Band 2 monthly charge undertaking: Final Decision*, April 2009, p 229.

- either below or in line with current equity beta settings for regulated energy and water businesses (although the AER's current view for regulated energy networks is 0.7, most determinations currently on foot incorporate an equity beta of 0.8); and
- lower than the equity beta currently assigned to some regulated port and rail businesses, such as Aurizon Network (equity beta of 0.8), ARTC Interstate (1.29) and DBCT (1.0).

Telstra considers that it would be unreasonable to maintain an equity beta that is towards the lower end of the range for Australian regulated infrastructure businesses. Given Telstra's relatively high exposure to systematic risk, Telstra's equity beta should be higher than the values assigned to regulated energy and water businesses, and more in line with the values assigned to the port and rail businesses referred to above.

Telstra is more exposed to systematic risk than most regulated infrastructure businesses, for two reasons:

- differences in the nature of services supplied by Telstra and its infrastructure peers, and particular, higher income elasticity of demand for telecommunications services; and
- differences in the form of regulation applied to Telstra and its infrastructure peers.

In relation to the first point, Telstra has previously noted that average income elasticity across fixed line services is close to 1, indicative of a product suite that is reasonably sensitive to fluctuations in income levels across the economy.<sup>94</sup> This can be contrasted with income elasticity of demand for energy of around 0.3 in most parts of Australia.<sup>95</sup>

In relation to the second point, recent research indicates that there is a strong relationship between risk faced by regulated businesses, and the form of regulation that is applied to those businesses. The QCA notes that theoretical and empirical research demonstrates that, under a variety of conditions, the form of regulation and ancillary mechanisms affect the regulated firm's revenues and costs and, to the extent that these elements of the firm's cash flows co-vary with the market, the form of regulation must have an impact on the regulated firm's beta in the CAPM. It also notes that the key elements of the regulatory framework that are likely to affect a firm's risk exposure include whether a price cap or revenue cap applies (with the latter likely to provide greater protection from demand risk) and the scope of cost pass-through mechanisms.<sup>96</sup>

The form of regulation that is applied to Telstra's fixed line services creates significantly greater risk exposure, compared to other regulated businesses. Some key features of the regulatory framework which increase risk exposure include:

- **Price cap form of regulation.** The declared fixed line services are subject to a price cap form of regulation, which results in Telstra bearing significant risks of any difference between actual and forecast demand associated with changes in economic conditions or other factors (i.e. Telstra bears the risk that if demand for fixed line services turns out to be less than was forecast at the time of setting prices, it will recover less than its revenue requirement for those services, all other things being equal). By contrast, many regulated energy network businesses are subject to a revenue cap form of regulation, under which the business is protected from demand risk through a revenue true-up mechanism.<sup>97</sup> Some

<sup>94</sup> Telstra, *ULLS Undertaking: Weighted Average Cost of Capital Submission*, 4 April 2008, pp 37-38.

<sup>95</sup> The Australian Energy Market Operator (AEMO) estimates income elasticity of demand for energy in each state in the National Electricity Market, for the purposes of forecasting annual energy load and maximum demand. In its 2013 Forecasting Methodology Information Paper, AEMO adopted an income elasticity estimate of 0.37 for NSW, 0.23 for QLD, 0.31 for VIC, 0.31 for SA and 0.71 for TAS (AEMO, *2013 Forecasting Methodology Information Paper: National Electricity Forecasting*, Table 2-3).

<sup>96</sup> QCA, *Discussion Paper: Risk and the Form of Regulation*, November 2012.

<sup>97</sup> For example, for electricity transmission businesses, the revenue true-up is effected through an adjustment to the annual service revenue requirement for any under-recovery amount or over-recovery amount from a previous year (NER, clause 6A.23.3(c)(2)(iii)).

regulated port and rail businesses, such as Aurizon Network, are also subject to a revenue cap.

- **Absence of unders / overs adjustment for both capital expenditure and operating expenditure.** Under the ACCC's efficiency incentive scheme, the risk of under/over-spend on either capital or operating expenditure resides entirely with Telstra.<sup>98</sup> While it is common for operating expenditure forecast risk to be largely borne by the regulated business (subject to the operation of cost pass-through mechanisms, discussed below), it is far less common for regulated entities to bear all capital expenditure forecast risk. In most other regulated industries, there is usually true-up for the difference between forecast and actual capital expenditure at the end of the regulatory period, which has the effect of largely protecting the business from the risk of under/over-spend relative to forecast.<sup>99</sup> While the ACCC's efficiency incentive scheme certainly creates stronger incentives for efficient behaviour by Telstra, it also significantly increases Telstra's exposure to expenditure risk, relative to other regulated businesses.
- **Absence of cost pass-through mechanisms.** The framework for regulation of Telstra's fixed line services provides very little scope to pass-through costs associated with unforeseen and unavoidable events. Most other regulated utilities are at least partly protected from expenditure risk associated with unforeseen events, through the ability to nominate 'pass-through events', the ability to identify certain capital projects as 'contingent projects', and scope to re-open regulatory determinations where unforeseen events occur that are not covered by either a pass-through event or contingent project.<sup>100</sup> This means that Telstra is significantly more exposed to the risk of its costs being higher than expected, due to unforeseen events.

The above comparison of Telstra's regulatory framework with those applying in other sectors indicates that Telstra's exposure to systematic risk is likely to be significantly greater than that of other regulated businesses. This should imply a commensurately higher beta for Telstra, compared to its infrastructure peers.

As noted above, an equity beta of 0.7 would be towards the lower end of the range of equity beta values for regulated infrastructure businesses in Australia. Telstra considers that it would be unreasonable to maintain an equity beta at this level, given Telstra's relatively high exposure to systematic risk.

## 10.6.2 Current empirical evidence supports an equity beta of at least 0.8 for Telstra

Current empirical evidence supports an asset beta for Telstra higher than 0.42, and an equity beta above 0.7. Current empirical evidence supports an asset beta of at least 0.5, which implies an equity beta of at least 0.8.

In previous inquiries (including the 2011 FAD inquiry), the ACCC has taken into account asset and equity beta estimates across a sample of international telecommunications businesses. In the 2011 FAD inquiry, the average asset beta across the ACCC's international sample was 0.39 and the average equity beta was 0.67. The ACCC considered that the evidence from this international sample supported its proposed asset and equity beta values for Telstra.

<sup>98</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 57 (re capital expenditure efficiency mechanism) and p 87 (re operating expenditure efficiency mechanism).

<sup>99</sup> For example, for electricity distribution and transmission businesses, all capital expenditure undertaken by the business during a regulatory period is added to the RAB at the end of the period, subject only to an ex post efficiency review in limited circumstances (NER clause S6.2.1(e)(1) / S6A.2.1(f)(1)). Similarly, for regulated gas businesses, all conforming capital expenditure undertaken by the business during an access arrangement period is added to the capital base at the end of the period (NGR, rule 77(2)).

<sup>100</sup> For example, see: NER, clauses 6.6 and 6.6A.

However since 2011, the average asset beta across the ACCC's international sample has materially increased. As Table 14 below shows, the average asset beta across this sample is now approximately 0.5, based on a 5-year average measure (as previously adopted by the ACCC). The average asset beta is slightly higher if it is estimated using daily observations for each business, rather than weekly or monthly observations.

**Table 14: Estimated asset beta for global peer set – June 2011 to June 2014**

Firm	June 2011 Asset Beta		June 2014 Asset Beta		
	5 year monthly	5 year weekly	5 year monthly	5 year weekly	5 year daily
<b>AT&amp;T</b>	0.49	0.56	0.53	0.58	0.6
<b>Qwest</b>	0.33	0.54	-	-	-
<b>Verizon</b>	0.46	0.49	0.55	0.58	0.64
<b>Cincinatti Bell</b>	0.38	0.31	0.43	0.43	0.42
<b>Bell Canada</b>	0.29	0.11	0.37	0.37	0.41
<b>British Telecom</b>	0.52	0.41	0.72	0.81	0.8
<b>Telekom Austria</b>	0.33	0.43	0.35	0.41	0.39
<b>Telecom Italia</b>	0.19	0.32	0.39	0.38	0.38
<b>Hellenic Telecom</b>	0.27	0.30	0.84	0.76	0.71
<b>TDC Solutions</b>	0.08	0.12	0.36	0.43	0.41
<b>Portugal Telecom</b>	0.33	0.47	0.27	0.3	0.29
<b>TeliaSonera</b>	0.52	0.56	0.58	0.68	0.69
<b>Telefonica</b>	0.43	0.46	0.61	0.55	0.57
<b>Deutsche Telecom</b>	0.17	0.34	0.49	0.49	0.49
<b>Orange Telecom</b>	0.25	0.31	0.48	0.5	0.51
<b>KPN</b>	0.16	0.28	0.29	0.43	0.41
<b>SwissCom</b>	0.19	0.37	0.48	0.55	0.55
<b>NTT</b>	0.27	0.33	0.5	0.58	0.61
<b>SingTel</b>	0.69	0.67	0.77	0.73	0.8
<b>PCCW</b>	0.05	0.03	0.39	0.42	0.43
<b>Chunghwa</b>	-	-	0.43	0.51	0.51
<b>Korea Telecom</b>		-	0.31	0.35	0.33
<b>Bezeq</b>	0.42	0.34	0.8	0.63	0.69
<b>Telecom NZ</b>	0.80	0.78	0.93	1.08	1.29
<b>Telstra</b>	0.23	0.32	0.41	0.50	0.58
<b>Average</b>	0.34	0.39	0.54	0.55	0.56

Source: Bloomberg

Telstra considers that the estimates using daily observations should be preferred over those using less frequent (monthly or weekly) observations. The estimates based on daily observations draw on a larger sample and have lower standard errors (Table 15). The estimates based on daily observations are also less likely to be affected by bias associated with possible 'time-of-month' or 'time-of-week' effects.<sup>101</sup> Use of daily observations is consistent with advice recently given by

<sup>101</sup> Some experts have noted that estimates based on monthly data can be affected by what is termed a "point in month" effect (for example: Incenta, *Review of Regulatory Capital Structure and Asset / Equity Beta for Aurizon Network: Report to the Queensland Competition Authority*, 9 December 2013, pp 57-58). For example, if all observations are taken on the last day of each month, the resulting beta estimates may be biased if there is unusual trading activity around the turn of the month.

Oxera to the New Zealand Commerce Commission is relation to its review of beta for UCLL and UBA services.<sup>102</sup>

**Table 15: Telstra's asset beta and standard errors June 2014**

Time observation period	Asset Beta	Standard error of Asset Beta
5-years monthly	0.41	0.34
5-years weekly	0.50	0.10
5-years daily	0.58	0.04

The current asset beta estimate for Telstra (as at June 2014) is 0.67. This indicates that if anything, Telstra's risk exposure is now higher than it has been in the past.

The above evidence indicates that observed asset and equity beta values for telecommunications providers have increased materially since the last FAD inquiry. This most likely reflects greater sensitivity of telecommunications revenues to changes in market conditions.

Based on this evidence, Telstra considers that a reasonable but conservative estimate of the asset beta associated with the supply of fixed line services is 0.5. This implies an equity beta of 0.8, at Telstra's assumed gearing level.

### 10.6.3 Relevance of CAPM limitations for estimation of the equity beta

Telstra notes that the Sharpe-Lintner CAPM, although a well-recognised and widely used model, has inherent limitations. In particular, it is widely acknowledged by academics and market practitioners that the Sharpe-Lintner CAPM will tend to produce biased estimates of the required return on a low-beta or value stock and may not take into account all factors affecting stock returns.<sup>103</sup> Other models such as the Black CAPM and Fama French Model were developed specifically to overcome these known weaknesses in the Sharpe-Lintner CAPM design.

Telstra considers this to be a relevant factor in determining an appropriate equity beta value for use in the Sharpe-Lintner CAPM. It should be recognised that for low-beta stocks, the Sharpe-Lintner CAPM, by its very design, is likely to under-estimate the required return on equity. The equity beta should be set in a way that recognises this inherent limitation in the design of the Sharpe-Lintner CAPM.

Telstra notes that the AER appears to take into account the limitations of Sharpe-Lintner CAPM design in setting the equity beta for energy network businesses. In its Rate of Return Guideline, the AER adopts a point estimate for the equity beta at the top of its range. The AER states, as one of its reasons for taking the top of the range that:<sup>104</sup>

*"... theoretically, under the Black CAPM, firms with an equity beta below 1.0 should have higher returns on equity than what the standard Sharpe-Lintner CAPM predicts".*

Telstra considers that a similar approach should be taken in this case. That is, to the extent the ACCC considers there to be a range of possible values for Telstra's equity beta, a point estimate towards the top of the range should be taken in recognition of the inherent bias in the Sharpe-Lintner CAPM.

<sup>102</sup> Oxera, *Review of the beta and gearing for UCLL and UBA services: Evidence and recommendations prepared for New Zealand Commerce Commission*, June 2014, p 9.

<sup>103</sup> There is a long history of academic research in this area, starting with the early work of Black, Jensen and Scholes (1972), Friend and Blume (1970) and Fama and Macbeth (1973).

<sup>104</sup> AER, *Better Regulation: Explanatory Statement – Rate of Return Guideline*, December 2013, p 88.



## 10.7 Gamma

Gamma ( $\gamma$ ) represents the value to investors of imputation credits. It is necessary to properly account for the value of imputation credits in the building block framework, to ensure that the overall return to investors is no more than is necessary to promote efficient investment in the relevant infrastructure.

The value of imputation credits may be accounted for either in the return on capital or in the tax building block. The value of imputation credits (represented by gamma) is used to adjust the relevant building block to ensure that overall – taking into account the allowed return on capital, the allowance for taxation, and the value derived from imputation credits – investors receive an adequate return on investment.

As in the 2011 FAD inquiry, Telstra proposes that the cost of taxation be accounted for as a separate building block (separate from the return on capital) and that the value of imputation credits be accounted for in that building block. Under this approach, gamma does not strictly form part of the return on capital. However gamma is dealt with in this section of Telstra's submission because it is closely related to the return on capital (i.e. the value of imputation credits forms part of the overall return to investors).

Telstra adopts a conventional approach to determining gamma, using the Monkhouse formula. Under the Monkhouse formula, gamma is the product of:

- the imputation credit payout ratio (or distribution rate); and
- “the utilisation factor”, which Monkhouse defines as measuring “the market value of imputation credits distributed via a dividend” (commonly referred to as “theta”).<sup>105</sup>

This formulation of gamma is widely accepted, including by the ACCC and other regulatory authorities such as the AER.<sup>106</sup>

It is also widely accepted that gamma should be measured as a market-wide parameter.<sup>107</sup> That is, gamma should reflect the value of imputation credits to investors across the entire (Australian) market. It is not relevant to consider what the value of imputation credits might be to a particular class of investors, or to investors in a specific business.

The remainder of this section sets out Telstra's approach to each of the components of the Monkhouse formula.

### 10.7.1 Distribution rate

Telstra adopts a distribution rate of 0.7. A distribution rate of 0.7 is consistent with the most recent and best available empirical evidence. A recent study by NERA confirms that the long term (cumulative) distribution rate is approximately 0.7 (NERA estimates a distribution rate of 0.69 based on ATO data up to 2010/11).<sup>108</sup> The findings of the NERA report are consistent with earlier studies.<sup>109</sup>

A distribution rate of 0.7 is also consistent with recent decisions of regulators and the Tribunal, including:

<sup>105</sup> P. H. L. Monkhouse, ‘Adapting the APV valuation methodology and the beta gearing formula to the dividend imputation tax system’, *Accounting and Finance* 37 (1997) 69-88, at 72, 74.

<sup>106</sup> For example: AER, *Better Regulation: Rate of Return Guideline*, December 2013, p 23.

<sup>107</sup> AER, *Better Regulation: Rate of Return Guideline*, December 2013, p 23.

<sup>108</sup> NERA, *The Payout Ratio: A report for the Energy Networks Association*, June 2013.

<sup>109</sup> For example: Hathaway N., *Imputation credit redemption: ATO data 1988-2008*, Capital Research, July 2010; Hathaway, N., Officer, R.R., *The value of imputation tax credits: update 2004*, Capital Research, November 2004.

- the AER's current position, as reflected in its Rate of Return Guideline;<sup>110</sup>
- the position of state regulators, such as the ERA and IPART;<sup>111</sup> and
- the decision of the Tribunal in *Energex*.<sup>112</sup>

Telstra is not aware of any evidence to support a value for the distribution rate above 0.7.

## 10.7.2 Value of distributed credits (theta)

### Telstra's position on theta

As noted above, theta reflects the value of distributed imputation credits to investors. Telstra considers that market value studies provide the best evidence of investors' valuation of imputation credits. Market studies indicate the value placed on credits by investors in market traded entities, as implied in share prices. The most common form of market value study is the dividend drop-off study, which relies on regression analysis to estimate the value of imputation credits implied in observed 'dividend drop-off' rates across traded stocks (i.e. the change in price when a stock goes ex-dividend).

For reasons discussed further below, Telstra does not consider redemption rates or equity ownership rates to be relevant in estimating theta. These measures do not indicate the value of imputation credits to investors. Rather, these measures merely indicate the upper bound for value (i.e. investors cannot value imputation credits at more than the face value of all credits that are redeemed, or that are potentially able to be redeemed).

While several dividend drop-off studies have been undertaken since the introduction of the dividend imputation system, only a small number of these rely on relatively recent data. Of these, Telstra considers the most relevant study to be the SFG (2013) study.<sup>113</sup> This study replicates the methodology used in the earlier SFG (2011) study which was undertaken at the request of the Tribunal in the *Energex* matter, with updated data.<sup>114</sup> The methodology for the SFG (2011) study was specifically designed to overcoming shortcomings in previous studies – in particular, the functional form was designed to overcome issues of multicollinearity and the dataset was compiled with a view to eliminating erroneous and outlying observations. The methodology has been carefully reviewed and amended where necessary to address concerns expressed by regulators (particularly the AER) and their consultants.

The estimate of theta produced by the SFG (2013) study (and also the SFG (2011) study is 0.35. Telstra considers this to be the best estimate of theta currently available.

### Response to the AER position on theta

Telstra notes that the AER in its Rate of Return Guideline has adopted a value for theta of 0.7.<sup>115</sup> However, Telstra does not agree with the approach taken by the AER to estimation of theta, for the following reasons:

- Telstra does not agree with the conceptual framework adopted by the AER for estimating theta, and in particular the AER's focus on the *ability* of investors to redeem imputation credits. What is relevant in the context of the building block model is the *value* of imputation

<sup>110</sup> AER, *Better Regulation: Rate of Return Guideline*, December 2013, p 23.

<sup>111</sup> IPART, *Review of imputation credits (gamma): Research – final decision*, March 2012; ERA, *Rate of Return Guidelines: Meeting the requirements of the National Gas Rules*, 16 December 2013.

<sup>112</sup> *Application by Energex Limited (Distribution Ratio (Gamma)) (No 3) [2010] ACompT 9*.

<sup>113</sup> SFG, *Updated estimate of theta for the ENA*, June 2013.

<sup>114</sup> SFG, *Dividend drop-off estimate of theta, Final report, Re: Application by Energex Limited (No 2) [2010] ACompT 7*, 21 March 2011.

<sup>115</sup> AER, *Better Regulation: Rate of Return Guideline*, December 2013, p 24.



credits to investors, not the ability to redeem, as this is what influences the overall return on investments.

- For the same reason, Telstra does not agree with the AER's use of utilisation rates and domestic equity ownership rates (which are seen to be indicative of the potential for utilisation) in estimating theta. Telstra considers that what is most relevant is evidence of the value of imputation credits, as indicated by market evidence (particularly dividend drop-off studies).
- There is strong evidence that the *value* of imputation credits is significantly less than the face value of imputation credits or the rate of utilisation. In particular, there are reasons why the value to investors is likely to be less than face value, such as tax rules disqualifying some investors from redeeming credits and transactions costs associated with redemption (for those who do redeem). Further, the empirical evidence (from dividend drop-off studies) indicates that the value to investors of imputation credits is significantly below redemption rates.
- There are well documented problems with the taxation statistics and other forms of evidence relied on by the AER. In particular, significant anomalies have been identified in the utilisation data published by the ATO.<sup>116</sup> Further, one of the utilisation rate studies relied on by the AER (Handley and Maheswaran (2008)) is not an empirical study at all (because the data was not available), but merely involves an assumption of full utilisation by domestic investors.<sup>117</sup>

The only source of evidence capable of providing a point estimate for the value of distributed imputation credits to investors is market value studies. The evidence of utilisation rates (or potential utilisation rates, as indicated by the equity ownership approach) referred to by the AER can only indicate the upper bound for investors' valuation of imputation credits. This has previously been observed by the Tribunal in *Energex*.<sup>118</sup>

As noted above, the best estimate of investors' valuation of imputation credits from market value studies is 0.35.

### 10.7.3 Conclusion

For the reasons set out above, Telstra considers that:

- the best estimate of the distribution rate is 0.7; and
- the best estimate of the value of distributed credits (theta) is 0.35.

Combining these values for the distribution rate and theta implies a value for gamma of 0.25.

<sup>116</sup> Hathaway N., *Imputation Credit Redemption ATO data 1988-2011: Where have all the credits gone?*, September 2013.

<sup>117</sup> John C Handley and Krishnan Maheswaran, 'A Measure of the Efficacy of the Australian Imputation Tax System', *The Economic Record*, Vol 84, No 264, March 2008, 82-94. The authors note, at 86-87, that for resident individuals and resident funds they have assumed zero Excess Credits (i.e. 100% usage of credits received) for the years 2001-2004, "consistent with investor rationality". This is reflected in Table 4, where the utilisation rate for resident individuals and resident funds is set to 1.00 for each of the years 2001-2004.

<sup>118</sup> *Application by Energex Limited (No 2)* [2010] ACompT 7, [91]-[92].

## 11. Taxation

The final revenue building block to be estimated is the allowance for tax liabilities. The allowance for tax liabilities is calculated in the FLSM as a function of the tax rate, taxable income, and the value of imputation credits.

The Fixed Principles require that the tax rate used in estimating tax liabilities in the FLSM will be set equal to the corporate tax rate specified in subsection 23(2) of the *Income Tax Rates Act 1986* (Cth) as amended from time to time.<sup>119</sup> The current corporate tax rate, as specified in that section, is 30%.

For the reasons set out in section 10.7 above, Telstra considers that the best estimate of the value of imputation credits at the current time is 0.25.

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<sup>119</sup> Fixed Principles, clause 6.13.

## D. CALCULATING THE REVENUE REQUIREMENT



### 12. Calculating the revenue requirement

The Fixed Principles require that the revenue requirement comprise:<sup>120</sup>

- a return on the RAB;
- a return of the RAB (regulatory depreciation);
- operating expenditure forecast to be incurred; and
- an allowance for tax liabilities.

Based on the forecasts of network expenditure and the indicative RAB roll-forward calculation set out in this submission (sections 7, 8 and 9 respectively), Telstra has undertaken an indicative revenue requirement calculation for the FY2015-19 period. This calculation is set out in Table 16 below.

As discussed above, all forecasts are based on the NBN Rollout Base Case. Clearly if the rollout timetable changes, these forecasts (and therefore the revenue requirement calculation) will need to be updated.

For the purposes of this indicative revenue requirement calculation, Telstra has effectively assumed a five-year regulatory period. That is, the revenue requirement is estimated for the five-year period from 1 July 2014 to 30 June 2019. Depending on when the replacement FADs are made and the term that is determined by the ACCC, this approach to calculating the revenue requirement may need to be revisited. Telstra's submissions on the appropriate term for the replacement FADs are set out in section 19 below.

**Table 16: Revenue requirement for the fixed line services, NBN Rollout Base Case, FY2015 to FY2019 (\$million, FY2009)**

<b>Return on capital</b>	
<b>Return of capital (depreciation)</b>	
<b>Operating expenditure</b>	
<b>Tax liabilities</b>	
<b>Total revenue requirement</b>	

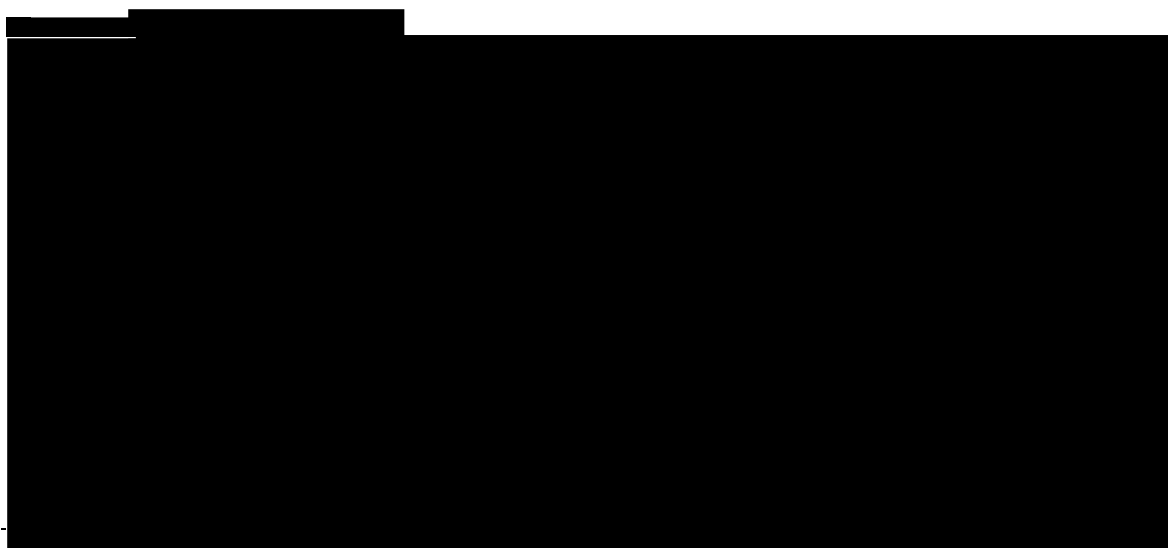
The revenue requirement for each year of the forthcoming regulatory period is significantly lower than what was determined by the ACCC for the previous regulatory period. This is due to a combination of factors, including reduced expenditure requirements and a lower cost of capital.

There is also expected to be a decline in the revenue requirement over the course of the regulatory period as expenditure requirements and the remaining RAB value continue to decline. The annual

<sup>120</sup> Fixed Principles, clause 6.8.

revenue requirement is expected to decline by around [REDACTED] between FY2015 and FY2019 – this is shown in Figure 28 below.

**Figure 28: Annual revenue requirement, FY2012-19**



## E. ALLOCATION OF REVENUE REQUIREMENT



### 13. Introduction

Once the revenue requirement has been determined, it is necessary to allocate recovery of this revenue requirement among the services which are expected to use the fixed line network over the regulatory period.

The Fixed Principles set out the cost allocation factors, which are:<sup>121</sup>

*(a) The allocation of the costs of operating the PSTN should reflect the relative usage of the network by various services.*

*(b) Direct costs should be attributed to the service to which they relate.*

*The cost allocation factors for shared costs should reflect causal relationships between supplying services and incurring costs.*

*(c) No cost should be allocated more than once to any service.*

*(d) The determination of cost allocation factors should reflect the principles in 6.14 (a) – (c) above except where reliable information is not available to support the application of the principles.*

A core principle underpinning these cost allocation factors is that the cost of operating, maintaining and investing in the fixed line network are to be shared fairly and proportionately among all users of the network. In particular, factor (a) clearly states that the allocation of costs should reflect the relative usage of the network by various services.

The Discussion Paper identifies two possible approaches to cost allocation – these are referred to as the ‘fully allocated cost approach’ and the ‘partially allocated approach’. For the reasons set out below, only the fully allocated cost approach complies with the Fixed Principles. The ‘partially allocated cost’ approach is directly inconsistent with the Fixed Principles because under this approach, the allocation of the costs of operating the fixed line network will not reflect the relative usage of the network by various services.

<sup>121</sup> Fixed Principles, clause 6.14.

## 14. Use of a fully allocated cost framework

Telstra has developed a fully allocated cost framework for the purposes of allocating the fixed line services revenue requirement among those services that use the network. This framework is described in detail in the allocation model documentation submitted to the ACCC in July 2014.<sup>122</sup>

Use of a fully allocated cost framework is highly conventional, and is used in many regulated industries. Full allocation of costs is necessary to ensure that the infrastructure provider has a reasonable opportunity to recover the cost of supply.

More importantly, full allocation of costs is required by the Fixed Principles. The Fixed Principles state that the allocation of the costs of operating the fixed network should reflect the relative usage of the network by various services. Only under full allocation can it be ensured that the allocation of costs will reflect relative usage of the network. If costs are less than fully allocated, it must be the case that the network operator is bearing more than its proportionate share of network costs. Conversely, if costs are more than fully allocated, the network operator will be bearing less than its proportionate share of network costs.

For the same reason, use of a fully allocated cost framework is in the LTIE. By ensuring a fair and proportionate allocation of costs, a fully allocated cost framework ensures that no user of the network is disadvantaged relative to its competitors. Thus, use of fully allocated cost framework will promote effective competition, and encourage efficient use of and investment in infrastructure.

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<sup>122</sup> Telstra, *Cost Allocation Framework for the ACCC Fixed Line Services Model: Framework and Model Guide* (Version 1), July 2014 (provided to the ACCC on 4 July 2014).

## 15. The ACCC's partial allocation approach

As noted by the ACCC in its Discussion Paper, Telstra's fully allocated cost framework differs from that used in the 2011 FAD. In the 2011 FAD, the ACCC adopted an allocation framework under which total demand for fixed line services was held constant, and allocation factors for declared fixed line services were only allowed to vary to reflect changes in demand for those wholesale services. This is referred to by the ACCC as a 'partially allocated cost' approach.

### 15.1 Approach to cost unitisation in the 2011 FAD

A key aspect of the 'partial allocation' methodology applied by the ACCC in the 2011 FADs is the unique approach to unitisation of costs.

For certain asset classes, the ACCC decided that costs should not be unitised across forecast demand for services using those asset classes. Rather, the ACCC decided to unitise costs based on a fixed level of total demand which was significantly higher than forecast demand for the relevant services. Specifically:

- for switching equipment asset classes, the revenue requirement was unitised based total demand (minutes of use) in FY2003. Telstra understands that this year was chosen because it represented the peak of demand for services using these asset classes; and
- for ducts and pipes and copper cables (which together account for the vast majority of costs in the CAN), the revenue requirement was unitised based total demand (SIOs) in FY2010. It is unclear to Telstra why this particular year was chosen as basis for unitisation of costs in all years of the FY2012-14 regulatory period.

The ACCC sought to explain this unique approach to cost unitisation on the basis that cost allocation factors should not be adjusted to reflect declines in total demand for fixed line services that reflect Telstra's loss of market share or reductions in the size of the market.<sup>123</sup> The ACCC claimed that Telstra has been appropriately compensated for the risk of declining demand through the risk premium included in the WACC. The ACCC also appeared to consider that certain assets had historically been "over-provisioned", and that Telstra should not be compensated for the costs of inefficient or over-provisioned assets.

Telstra strongly objected to the ACCC's cost unitisation approach in its submissions to the 2011 FAD inquiry.<sup>124</sup> Telstra's submissions demonstrated that the effect of the ACCC's approach would be to deny Telstra any opportunity to recover the value of its investments as valued by the ACCC, as well as approved future expenditure.

Telstra maintains its view that the approach to cost unitisation applied in the 2011 FAD was deeply flawed. This approach denies Telstra the opportunity to recover the cost of supplying the fixed line services, as determined by the ACCC using the building block method. Further, as explained below, this approach is directly inconsistent with the Fixed Principles, which require costs to be shared on the basis of relative usage.

An approach which denies Telstra the opportunity to recover the cost of supplying the fixed line services would fail to properly account for the direct costs of providing access to the declared services (as required by para 152BCA)1)(d)) and is contrary to the LTIE.

<sup>123</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 100.

<sup>124</sup> Telstra, *Public inquiry to make final access determinations for the declared fixed line services: Part A of Telstra's response to the Commission's discussion paper*, June 2011 pp 36-54.



## 15.2 Partial allocation is inconsistent with the allocation Fixed Principle

The 'partially allocated cost' approach is directly inconsistent with the allocation Fixed Principle. Under this approach, the allocation of the costs of operating the fixed line network will not reflect the relative usage of the network by various services. In particular, under the 'partially allocated cost' framework, the allocation of costs between wholesale and retail services will not reflect their relative usage – rather, a disproportionately higher share of costs will be allocated to Telstra retail services.

This can be demonstrated by way of a simple example, which assumes that:

- total demand across all services using the fixed line network is 100 in year 1;
- total demand declines by 5% each year, for 10 years; and
- Telstra retail services account for 50% of total services in all years, with the remaining 50% accounted for by wholesale services.

As can be seen from Table 17 below, the ACCC's partial allocation approach leads to allocation factors which do not reflect the relative usage of the network by retail and wholesale services.

**Table 17: Illustrative application of the partial allocation approach**

	Total demand	Wholesale share of total demand	Retail share of total demand	Allocation to wholesale	Allocation to retail
<b>Year 1</b>	100.0	50%	50%	50%	50%
<b>Year 2</b>	95.0	50%	50%	48%	52%
<b>Year 3</b>	90.3	50%	50%	45%	55%
<b>Year 4</b>	85.7	50%	50%	43%	57%
<b>Year 5</b>	81.5	50%	50%	41%	59%
<b>Year 6</b>	77.4	50%	50%	39%	61%
<b>Year 7</b>	73.5	50%	50%	37%	63%
<b>Year 8</b>	69.8	50%	50%	35%	65%
<b>Year 9</b>	66.3	50%	50%	33%	67%
<b>Year 10</b>	63.0	50%	50%	32%	68%

Of course, if it were assumed that demand was increasing, the allocation to wholesale services would be higher than its relative usage of the network and the allocation to retail services would be lower than its relative usage. The partial allocation approach would be equally inappropriate in this case.

It can be seen that the partial allocation approach means that a disproportionate share of the cost recovery burden is borne by certain network users. In this particular case, Telstra's retail customers bear a disproportionately higher share of the cost burden, because demand for fixed

line services is currently in decline. If demand were increasing, it would be wholesale customers' end-users that would bear a disproportionately higher share.

Thus, the partial allocation approach clearly breaches the cost allocation Fixed Principle (clause 6.14 of the FADs), which states that *"the allocation of the costs of operating the PSTN should reflect the relative usage of the network by various services"*.

In this regard, the expert report of Mr Jeff Balchin (Appendix 2) states:<sup>125</sup>

*"The key conclusion of this report is that, irrespective of the merits of the "partial allocation" approach, this approach is neither contemplated nor authorised by the "fixed principles" determined as part of the 2011 final access determinations. Rather, those "fixed principles" prescribe an orthodox application of the building block approach to setting regulated prices, including an orthodox approach to cost allocation and then the use of forecasts of demand to determine regulated prices from the allocated costs. Indeed, the principles prescribe that costs be allocated between services in proportion to the relative use of the assets in question and emphasise the need for accurate forecasts of demand when setting prices. The alternative approach – described by the ACCC as a fully distributed cost allocation – is the approach that is required by the fixed principles."*

### 15.3 Partial allocation is inconsistent with the demand Fixed Principle

The partial allocation approach is also directly inconsistent with the demand Fixed Principle (clause 6.11 of the 2011 FADs), which states that demand forecasts should (among other things) be determined taking into account current demand and economic conditions.

The assumptions as to total fixed line network demand which were used to calculate allocators under the ACCC's partial allocation approach were clearly not determined taking into account current demand and economic conditions. As noted above, the ACCC assumed that an historic level of total demand would be maintained, and made no attempt to determine a forecast of total demand which was reflective of current conditions.

### 15.4 Partial allocation is inconsistent with a RAB-based pricing approach

The partial allocation approach was adopted by the ACCC at the same time as it transitioned to a RAB-based / BBM pricing approach for the declared fixed line services. However, the partial allocation approach is itself inconsistent with the fundamental principles of that pricing approach.

At the time of transitioning to a RAB-based / BBM approach, the ACCC observed that the previous approach, which had involved periodic optimisation and revaluation of network assets, had led to uncertainty over the level of access prices.<sup>126</sup> The ACCC therefore decided to move to an approach whereby the value of network assets was 'locked in' and the access provider would be allowed to recover this locked in value. The ACCC stated:<sup>127</sup>

*"The BBM is an established approach used to determine the revenue required by regulated businesses and has been widely adopted by Australian regulators in other sectors. The main difference between the BBM and TSLRIC+ is that under the BBM asset values are 'locked-in' using an initial regulatory asset base (RAB) as the basis for setting indicative prices."*

<sup>125</sup> Incenta Economic Consulting, *Cost allocation for fixed line services*, October 2014, p 14 (Appendix 2).

<sup>126</sup> ACCC, *Review of the 1997 telecommunications access pricing principles for fixed line services: Draft report*, September 2010, p 15.

<sup>127</sup> ACCC, *Review of the 1997 telecommunications access pricing principles for fixed line services: Draft report*, September 2010, p 17.

*An advantage of the BBM is that it allows the access provider to recover its efficient actual costs as well as a reasonable rate of return on, and a return of, its investments in existing sunk assets.”*

However, the approach adopted to cost allocation adopted in the 2011 FADs – the partial allocation approach – was directly inconsistent with the core principle of the BBM approach. As noted by the ACCC, a key feature of the BBM approach is that the value of network assets is locked in and the access provider is allowed to recover its efficient actual costs as well as a reasonable rate of return on, and a return of, the locked in value of existing sunk assets. As demonstrated above, the partial allocation approach does not allow Telstra to recover the value of the fixed line network assets, as determined by the ACCC in the 2011 FADs and locked in through the Fixed Principles.

In effect, the partial allocation approach provides for *de facto* optimisation of the fixed line network asset base. As demand falls below historic peak levels, Telstra is denied an opportunity to recover an increasing share of the locked in asset value. This is clearly inconsistent with the principles of a BBM approach, as articulated by the ACCC.

This use of the partial allocation approach as a means of *de facto* optimisation is clear from the ACCC's reasoning. The ACCC states that its partial allocation approach:<sup>128</sup>

*“...reduced the risk that building block costs of declared services would include inefficient or over-provisioned assets, such as over-provisioned switching equipment”.*

Even if this were true, it would not be appropriate for allocation factors to be used as a means of optimising the asset base to remove allegedly inefficient investment. If the ACCC had genuine concerns regarding the efficiency of past investment, then it should have addressed these before locking in the RAB value. Now that the RAB value has been locked in, it is not open to the ACCC to reopen debates about the efficiency of past investment that is reflected in that locked in value. One of the main reasons for moving to a BBM approach was to avoid such debates.

## 15.5 Partial allocation is inconsistent with the object of Part XIC

Use of a partially allocated cost approach is also inconsistent with the object of Part XIC (i.e. promotion of the LTIE). By allocating a disproportionately higher share of costs to Telstra retail services, the partial allocation approach can only lead to one of two outcomes:

- Telstra retail services being at a competitive disadvantage relative to wholesale services, an outcome which will not promote efficient competition; or
- Telstra not recovering the cost of supplying the fixed line services, an outcome which will not encourage efficient use of, and investment in telecommunications infrastructure.

In relation to the object of Part XIC, Mr Balchin states:<sup>129</sup>

*“The most obvious implication of the “partial allocation” approach for the objects clause is the effect of this approach on the incentive for investment in the regulated (fixed line) assets. As discussed in Chapter 2, an outcome of the “partial allocation” approach is that Telstra is unlikely to earn a commercial return on any new investment in these assets and therefore it is unlikely that the incentive for such investment will exist. This would appear to be an outcome that is in clear conflict with the objects clause.*

*It is acknowledged that if prices are kept artificially low for the regulated fixed services then the incentive for investment may increase in some areas (for example, in investments that*

<sup>128</sup> Discussion Paper, p 39. See also: ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 100.

<sup>129</sup> Incenta Economic Consulting, *Cost allocation for fixed line services*, October 2014, p 23 (Appendix 2).

*make use of fixed line infrastructure), but may decrease in other areas (for example, investments in mobile networks, which are made less competitive as a result against fixed line networks). Even within the fixed line networks investment in other areas may be adversely affected (for example, if the reduction in fixed line charges is felt more in the wholesale services, then the incentive for providers to provide their own switching and other infrastructure in exchanges and so bypass Telstra's equipment may fall). The net effect of these wider factors – and the more relevant question of whether the changes in investment are efficient or inefficient changes – is difficult to determine.*

*The assumption in the discussion above is that if the “partial allocation” approach was applied then Telstra would be constrained by competition both at the retail level and in other markets (for example, mobiles) to bear the loss. The alternative would be for Telstra to seek to pass through some or all of its unrecovered costs into its price offerings in those other markets. To the extent that this strategy was encouraged, then the rivalry provided by Telstra in those other markets would decline (that is, the constraint it provided on price would come in at a higher price), which in turn could be interpreted as a decline in the level of competition in those other markets. These outcomes, should they occur as an alternative, would also appear to be counter to the clear direction of the objects clause for competition to be promoted.”*

## 15.6 ACCC reasons for adopting a partially allocated cost approach

The Discussion Paper presents several reasons for the ACCC's adoption of a partially allocated cost approach in the 2011 FADs. These include:

- a fully allocated cost approach would result in demand risk being transferred from Telstra to access seekers;
- a return on historically over-provisioned assets is inappropriate and could not occur in a competitive market;
- Telstra has already been compensated through the WACC for the structural decline in demand; and
- fully allocated cost approaches create incentive issues, including a reduction in the incentive to minimise costs and an incentive to inflate the allocation to regulated services.

Each of these issues is addressed below and in the accompanying expert report of Mr Balchin (Appendix 2).

### 15.6.1 Transfer of demand risk

A fully allocated cost approach does not imply that all demand risk is borne by access seekers.

Rather, under a fully allocated cost approach:

- the impact of demand for network services falling (or rising) *between* regulatory periods is shared proportionately among all users of the network, including Telstra and access seekers – that is, unit costs for all network users may be expected to rise (fall) between periods if there is a decline (increase) in demand, all other things being equal; and
- the risk of demand being lower (or higher) than forecast *within* a regulatory period is borne entirely by the access provider, assuming that there is no adjustment for demand ‘unders and overs’ at the end of the period (as is the case here).

Both of these outcomes are entirely consistent with a proper application of the BBM approach. As noted above, under a BBM approach (and in accordance with the LTIE) the access provider should be provided with a reasonable opportunity to recover its costs including a return on, and a return

of, the value of its investments in sunk network assets. If demand for network services is declining between regulatory periods, then an increase in unit costs for all network users is likely to be necessary in order to provide for cost recovery.

The Discussion Paper states that in considering the sharing of demand risk between Telstra and access seekers, the ACCC considers it useful to separately consider the different sources of declining demand for fixed line services. The ACCC then identifies several possible drivers of demand, including:<sup>130</sup>

- migration of customers to the NBN;
- substitution of customers away from fixed line services to other alternative networks, such as mobile networks; and
- loss of market share by Telstra to access seekers.

It should be noted that only the migration of customers off the fixed line network to alternative networks (either mobile networks or the NBN) will lead to declining demand for fixed line services. A loss of market share by Telstra to access seekers will affect relative usage of the network, but will not affect total demand for fixed line services. Therefore it is incorrect to characterise 'loss of Telstra market share' as a driver of declining demand for network services.

As for declining demand caused by migration to alternative networks, it is unclear why the impact of this should be entirely borne by one user of the fixed line network. Under the ACCC's partial allocation approach, the impact of customer migration to alternative networks is borne entirely by Telstra. Telstra submits that a far more appropriate approach would be for this impact to be shared proportionally among all users of the fixed line network, as is the case under a fully allocated cost approach.

In any event, Telstra does not consider it necessary to separately identify the various drivers of declining demand for fixed line services, for the purposes of determining declared service prices. As discussed above, the Fixed Principles clearly require that the cost of operating the fixed line network be allocated on the basis of relative usage of the network. If overall usage of the network has declined, then the costs of operating the network must be allocated across that lower usage. It is neither necessary nor appropriate to investigate what has led to network usage falling to that lower level.

## 15.6.2 Historically 'over-provisioned' assets

The ACCC claims that certain assets included in the RAB were "over-provisioned". The ACCC states that its partial allocation approach reduced the risk that building block costs of declared services would include inefficient or over-provisioned assets, such as over-provisioned switching equipment.<sup>131</sup>

There is no evidence that any fixed line assets were historically over-provisioned, or that any past investment decisions were imprudent. Investment decisions were made based on demand for services at the relevant time. Simply because demand for some services has fallen over time does not render those past decisions imprudent, nor does it justify a *de facto* optimisation of the relevant assets, *ex post*.

In any event, had the ACCC believed that some assets were over-provisioned, this issue should have been addressed at the time the RAB was set. It is not appropriate for such issues to be addressed through adjustments to the cost allocation framework, after the RAB has been determined and 'locked in'. It is particularly inappropriate in this case, given that the ACCC had

<sup>130</sup> Discussion Paper, p 48.

<sup>131</sup> Discussion Paper, p 39. See also: ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 100.

rejected an optimised replacement cost methodology for valuing the RAB, in favour of an historic cost methodology.

Mr Balchin explains:<sup>132</sup>

*“As noted earlier, debates about the efficiency or necessity of current levels of capacity are of no relevance in the current context. Under the current regulatory regime, the debate about whether there is a surplus of capacity – and the implications of this – was a consideration that was relevant to setting the initial RAB, as it has in all other industries where cost based regulation has been applied with a RAB value that is determined at the start and then updated over time in a mechanistic manner. Applying the “partially allocated cost” approach in order to achieve a write down of the RAB through indirect means is not something that the fixed principles contemplates and indeed it is inconsistent with the clear requirements as to how the starting RAB is to be updated from one price review to the next.”*

### 15.6.3 Compensation through the WACC

The ACCC's claim that the risk of a structural decline in demand is compensated through the WACC is simply incorrect.

As explained by Mr Balchin, the conventional WACC compensates investors for the variation in returns around the average (or expected) level of returns. The WACC does not compensate for one-sided liabilities, like losses caused by natural disasters nor does it compensate for other one-sided liabilities, like the loss of market share to a competing platform (e.g. in this case, the migration of customers from the fixed line network to mobile networks).<sup>133</sup>

### 15.6.4 Incentive issues

The ACCC has also argued that there are certain incentive issues with the use of the fully allocated cost framework, including that use of a fully allocated cost framework:

- may discourage cost minimisation;<sup>134</sup> and
- may lead to allocation of costs to the regulated service being inflated.<sup>135</sup>

As noted by Mr Balchin, both of these issues necessarily arise in any cost-based price regulation framework, and there are well-developed methods for addressing them.<sup>136</sup>

Incentives for cost minimisation can be provided by the way in which expenditure allowances are set and the method for including expenditure in the cost base. In this case, such incentive mechanisms are in place. For example, the ACCC has explicitly stated that it will not make ‘unders and overs’ adjustments for operating expenditure, on the basis that this will promote efficient expenditure by Telstra.<sup>137</sup>

Appropriate allocation of costs between regulated and unregulated services can be ensured by allowing for proper review of proposed allocations. It is for this reason that Telstra has submitted its proposed allocation framework early, to allow all stakeholders a reasonable opportunity to fully review the proposed allocation of costs.

<sup>132</sup> Incenta Economic Consulting, *Cost allocation for fixed line services*, October 2014, p 28 (Appendix 2).

<sup>133</sup> Incenta Economic Consulting, *Cost allocation for fixed line services*, October 2014, pp 30-31 (Appendix 2).

<sup>134</sup> Discussion Paper, p.43.

<sup>135</sup> Discussion Paper, p.39.

<sup>136</sup> Incenta Economic Consulting, *Cost allocation for fixed line services*, October 2014, pp 31-32 (Appendix 2).

<sup>137</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, p 87.



## 16. Fully allocated cost framework

For the reasons set out above, Telstra has developed a fully allocated cost framework. This framework ensures a fair allocation of costs between retail and wholesale services, and is therefore consistent with the Fixed Principles. This framework has been subject to independent expert review and verification by KPMG.<sup>138</sup>

As noted above, use of a fully allocated cost framework is highly conventional, and is used in many regulated industries. Full allocation of costs is necessary to ensure that the infrastructure provider has a reasonable opportunity to recover the cost of supply.

Telstra's proposed framework is described briefly below, and further detail is provided in the cost allocation framework documentation (**CAF Documentation**) submitted to the ACCC in July 2014.<sup>139</sup>

### 16.1 Overview of Telstra's Cost Allocation Framework

Telstra set out to develop a cohesive cost allocation framework (**CAF**) and produce an Excel model (the **CAF Model**) that could be incorporated into the FLSM and replace the existing cost allocation worksheets.

In developing the CAF, Telstra has adopted and re-used existing modelling frameworks (where feasible) and ensured a consistent approach with the similar BBM-based access pricing regimes used by the ACCC, the AER and other Australian regulators.

In practice, Telstra sought to implement the following principles in developing the cost allocation model:

- The model employs a fully allocated cost framework. For each Asset Class, the total allocation of costs for the Asset Class across all platforms and services is equal to 1.
- To the greatest extent possible, specific Asset Class allocators are used, in which relevant data on the use of the particular Asset Class by different services are used to determine cost allocations. For five Asset Classes, a general allocator is used, in which an allocation is estimated for the regulated fixed line wholesale services based on those services allocations that derive from the other Asset Class specific allocators.
- Different cost allocation approaches were adopted for different Asset Classes to reflect the different drivers of costs for different Asset Classes. Each Asset Class is also examined to determine whether or not cost drivers vary for different equipment and asset types that make up the overall Asset Class.
- The ultimate output of the CAF Model is a set of cost allocators for the FLSM Asset Classes that apply to the FLSM services (the regulated fixed line wholesale services). These cost allocators are updated for each year over the period FY2014 to FY2019 based on the best available forecast data. Forecast allocators in the version of the CAF Model are based on demand forecasts provided by Telstra in its RKR Response, as well as additional forecasts for services not captured by the RKR Response but prepared on a consistent basis.

Telstra has simplified the cost allocation process by only seeking to produce service-level cost allocators for fixed line services – and in particular the regulated fixed line wholesale services.

<sup>138</sup> KPMG, Review of Telstra's Cost Allocation Methodology, July 2014 (provided to the ACCC on 4 July 2014).

<sup>139</sup> Telstra, Cost Allocation Framework for the ACCC Fixed Line Services Model: Framework and Model Guide (Version 1), July 2014 (provided to the ACCC on 4 July 2014).



The implementation of these principles within the CAF and the CAF Model is set out in the following sections.

## 16.2 Implementing a Cost Allocation Framework for the FLSM

The model produces cost allocations for each Asset Class to the regulated fixed line wholesale services for each year over the period FY2014 to FY2019. The period FY2014 to FY2019 is consistent with the period for which Telstra was required to provide forecast data for the 2013 BBM RKR.

The following steps are required to establish cost-reflective allocators for services within a fully-allocated cost framework:

- understanding which assets are contained in each Asset Class and the cost drivers of these assets;
- determining the scope of services that make use of each Asset Class – this may include some or all of the fixed line services (including regulated fixed line wholesale services) and “Other” services;
- calculating cost-causal allocators on the basis of the identified cost drivers relevant to each Asset Class to the set of services that make use of those particular assets; and
- producing outputs (allocation factors) for use in the FLSM.

The detail of the implementation of the CAF Model can be found in the CAF Documentation submitted to the ACCC in July 2014.<sup>140</sup>

In broad terms, the CAF Model operates as follows:

- For each FLSM Asset Class, either a Specific Allocator or a General Allocator is calculated.
- For the FLSM Asset Classes for which a Specific Allocator is calculated, demand and routing factor inputs are used by each of the Specific Allocator calculations (in conjunction with other data specific to certain Asset Classes that is set out in the individual Asset Class allocator worksheets) to determine cost allocators for the regulated fixed line wholesale services.
- For the FLSM Asset Classes for which a General Allocator is calculated, the CAF Model applies the weighted average allocator for a particular service across the Asset Class group (i.e. the CAN Asset Classes or the Core Asset Classes) to a particular Asset Class.
- The results of the individual Asset Class specific and general allocators are then tabulated by year for each service.
- Where the service is either a fixed line access service (Retail Basic Access, WLR, ISDN-BRI & ISDN-PRI, ULLS and LSS) or a fixed line broadband service (Retail ADSL, WDSL and Other DSL), forecast demand is measured in SIOs. For the fixed line voice services (PSTN local calls, PSTN national STD, PSTN international, PSTN fixed to mobile, FOAS and FTAS, PSTN LCS and ISDN voice) the forecast demand is measured in terms of minutes of use.
- Routing Factors are used to determine which fixed line voice and broadband services are allocated costs for each Asset Class. Where the routing factors are applied to fixed line services, the calculated routing factor may be “1”, “0” or some other positive number. Routing factors for the fixed line voice services will vary depending on the estimated relative

<sup>140</sup> Telstra, Cost Allocation Framework for the ACCC Fixed Line Services Model: Framework and Model Guide (Version 1), July 2014 (provided to the ACCC on 4 July 2014).

load the particular service places on an Asset Class, as calculated by the separate Routing Factor Model.

The CAF Model is explained in detail in the CAF Documentation submitted to the ACCC in July 2014.

### 16.3 Updating the cost allocation framework

As described above, an important input into the CAF Model is the forecast of demand for each of the services using the fixed line network. It is important that cost allocators be based on up-to-date forecasts of demand for network services, in order for there to be a fair sharing of network costs.

When Telstra provided the CAF Model and documentation to the ACCC in July 2014, allocators were based on the demand forecasts provided as part of Telstra's RKR Response. Since these demand forecasts have since been revised (refer to section 6 above), it is necessary to update the CAF Model so that it reflects the best available and most up-to-date information on forecast service demand.

#### 16.3.1 Updated forecast demand for fixed line services

Demand forecasts for the declared fixed line services have been revised as described in section 6 and Appendix 4.

Demand forecasts for other fixed line services (e.g. retail services) have also been revised using a consistent methodology. The method used for revising these forecasts is explained in Appendix 4.

#### 16.3.2 Forecast demand for NBN use of fixed line assets

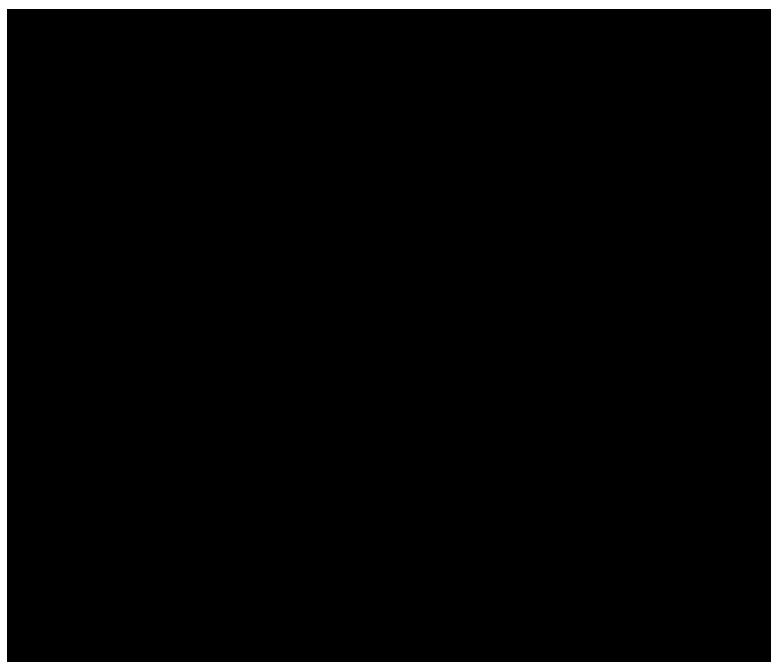
Forecasts of demand for facilities access are also required for use in Telstra's fully allocated cost model. These forecasts are required so that the cost of assets such as ducts and network buildings can be fully allocated across all services that they are used for, thus ensuring a fair sharing of these costs among all network users.

It is expected that over the forthcoming regulatory period, there will be a change in relative usage of duct and building space by fixed line services and other services. In particular, it is expected that NBN Co's usage will increase, relative to fixed line services and other non-NBN services. It is therefore necessary to forecast this change in relative usage, for the purposes of updating cost allocators for the ducts and pipes asset class for later years.

For both ducts and exchange buildings, NBN Co's usage in each year is estimated based on their expected total requirements at the end of the rollout period and the forecast percentage of NBN rollout expected to be completed in that year.

For ducts, it is expected that NBN Co's usage will [REDACTED] between FY2014 and FY2019, [REDACTED] (Figure 29).

**Figure 29: Forecast NBN Co use of duct assets – NBN Rollout Base Case**



For exchange building space, it is expected that the increase in NBN usage will be less significant. This is because NBN Co has already deployed a large number of racks in Telstra's exchange buildings, and it is expected that there will only be moderate further increases in NBN Co rack deployment over the next five years.

A full explanation of Telstra's methodology for developing forecasts of duct and exchange building usage is set out in Appendix 4.

As explained in Appendix 4, current forecasts of duct and exchange building usage are based on current expectation as to the NBN rollout timetable, as set out in the NBN Co Strategic Review (the NBN Rollout Base Case). To the extent that the rollout timetable changes, these forecasts will be updated, and the allocators for these asset classes can be adjusted accordingly.

### **16.3.3 Updated forecast demand for Interexchange cable**

The platform allocators for the Inter-exchange Cables have been updated to incorporate a change in how much CAN fibre should be allocated to PSTN. Additionally, a forecast of the split between platforms for each year of the regulatory period has been calculated.

#### *Change in CAN fibre allocator*

CAN fibre includes those links which connect the exchanges to the remote housings and customer sites within an ESA. For simplicity, CAN fibre was previously allocated entirely to PSTN services. However Telstra now recognises that it is more appropriate that it be split between PSTN, DSL and Other platforms.

#### *Calculation of forecasts for IEN platform costs*

As described in the CAF Documentation, IEN platform costs are allocated between PSTN, DSL, Transmission and Other uses. Forecast values for these allocators have been calculated using the historical trend for the platforms increasing their share of the costs (Transmission and Other) and dividing the remainder between PSTN and DSL platforms so that the relationship between them remains stable.

The forecast platform allocations, based on the historical trend information, are set out in Table 18 below.

**Table 18: Forecast platform allocations for IEN platform costs**

	Platform Allocation			
	DSL	PSTN	Other	Transmission Equipment
FY2014				
FY2015				
FY2016				
FY2017				
FY2018				
FY2019				

### 16.3.4 Updated demand forecasts for Transmission Equipment

The platform allocators for CO05 Transmission Equipment have also been updated to incorporate a forecast for the split between platforms for each year of the regulatory period. In addition, the data extraction process was refined to more accurately reflect the usage of Transmission equipment.

#### *Update to Transmission Equipment allocator*

Transmission Equipment contains the electronic equipment used to operate transmission services. The actual fibre links are included in Asset category CO04 Inter-exchange Cables. A refinement in the data extraction process identifying the main purpose of the equipment means that slight movements have occurred between the platform allocators for both the SDH and PDH equipment.

#### *Calculation of forecasts*

As described in the CAF Documentation, Transmission platform costs are allocated first between types of Transmission then between PSTN, DSL and Other.

Forecast values for the Transmission type allocators have been calculated using the historical trend with PDH reducing to 0 as other types of transmission are increasingly more prevalent.

The allocations for the SDH and PDH equipment by platforms have been forecast in a similar way to the IEN platform allocators – the historical trend for the Other platform increasing the share of the costs and dividing the remainder between PSTN and DSL platforms so that the relationship between them remains stable. There is minimal movement in the allocator because the PSTN and ADSL products will maintain their connectivity as other products move to a fibre solution.

Certain Telstra products and platforms such as Digital Video Network and Retail and Wholesale Data Products are growing in usage of SDH assets (which include DWDM) while others, such as Mobiles, are declining as they move to an ethernet enabled optical fibre backhaul network.

The net result is the marginal increase in the Other category usage that is being observed. (Note: Wholesale Transmission services tend to be large capacity links and from a weighted perspective they offset the numerous links being installed to support growth products/platforms).

The resulting allocations are set out in Table 19 below.

**Table 19: Updated Transmission allocations**

<i>Overall transmission equipment allocation</i>	ADSL share	PSTN share	Other
Jun-14			
Jun-15			
Jun-16			
Jun-17			
Jun-18			
Jun-19			

## F. DETERMINATION OF PRICES



### 17. Introduction

Telstra proposes that the ACCC calculate prices for each of the fixed line services in a conventional manner, consistent with the Fixed Principles. This involves dividing the revenue requirement allocated to each service by expected demand for that service over the regulatory period.

As is conventional under a BBM, the process for calculation of service prices should be designed to equalise (in terms of present values):

- the portion of the revenue requirement for the regulatory period that is allocated to regulated services; and
- forecast revenue from regulated services over the regulatory period, taking into account forecast demand.<sup>141</sup>

This section sets out Telstra's proposed approach to determining service prices, using this conventional method.

<sup>141</sup> Equalisation of the revenue requirement with forecast revenue is required under the NGR (Rule 92(2)).

## 18. Price structures

### 18.1 ULLS price structure

Telstra considers that the price structure established for ULLS in the 2011 FADs continues to be appropriate. Each of the considerations which led to adoption of this price structure in 2011 (referred to on page 56 of the Discussion Paper) remain relevant today.

This does not mean that the allocation of cost to ULLS should reflect the cost gradient that was previously applied in determining the existing price structure. This cost gradient was drawn from previous TSLRIC+ models, and is no longer appropriate for allocating costs under a BBM framework.

Telstra has proposed some adjustments to the method for allocating costs of certain asset classes (in particular the ducts and pipes, and copper cables asset classes) between geographic areas. These adjustments have been made in order to better reflect the geographic variation in the costs for these asset classes. These adjustments are explained in Telstra's CAF Framework and Model Guide (July 2014), sections 5.1.1 and 5.1.2.

However, in the interests of real price stability, Telstra considers that existing price relativities (as between geographic areas) should be maintained in determining prices for the ULLS. Telstra considers that maintaining existing price relativities for the forthcoming regulatory period will promote the LTIE.

As discussed below (section 20), Telstra proposes that prices for the ULLS (and other services) be determined in a way that provides a reasonable opportunity for Telstra to recover its costs and ensures an appropriate allocation of these costs among users of the network, while ensuring stability in price relativities for regulated services.

### 18.2 FOAS and FTAS price structure

Telstra proposes to adopt a different price structure for FOAS and FTAS to that adopted in the 2011 FADs. Telstra considers that a geographically de-averaged price structure is appropriate for this service, in light of the very significant cost differences between geographic areas.

#### 18.2.1 Application to non-dominant networks

As noted in the Discussion Paper, a relevant consideration in this context is the potential for application of FOAS and FTAS price regulation to "non-dominant" networks.

Telstra understands that the current FADs for FOAS and FTAS are considered to apply to all access providers. However the ACCC has given no indication or guidance that the longstanding non-dominant network pricing guideline (issued in 2001) does not continue to apply. To the contrary, commercial negotiations of FOAS and FTAS pricing with non-dominant networks have continued to recognise the lower network costs in these predominantly CBD/metro oriented and accordingly rates below the prevailing Telstra supplied rate have continued to reflect this reality and to be negotiated commercially notwithstanding the difficulty created by moving from de-averaged FOAS and FTAS rates to a national average approach in 2011.

In Telstra's view, the ACCC's position in the Pricing Guideline was that the efficient price of PSTN OTA supplied by non-dominant network providers should not be above the disaggregated regulated price pertaining to supply of that service by a dominant network provider, but in circumstances where a non-dominant PSTN network has costs significantly lower than those of Telstra's TSLRIC due to factors such as the specific nature of the service they provide, the ACCC



may assess these instances individually, and determine whether an argument exists for looking specifically at the TSLRIC of the particular services of the non-dominant network.<sup>142</sup>

This raises an inconsistency with the introduction of the averaged PSTN OTA price in the FADs in 2011. Based on the Pricing Guideline, the de-averaged OTA price (as it then was) would form the upper bound for non-dominant operators, and the Pricing Guideline explicitly recognises that the efficient costs of providing such services by a non-dominant provider may in fact be lower. Given that PSTN OTA prices are now averaged, the FADs for FOAS and FTAS prices in the metropolitan areas (where non-dominant networks typically operate) exceed that upper bound.

## 18.2.2 Evidence of geographic price differentials

In the 2011 FADs, the ACCC noted that a number of parties (including Telstra and several access seekers) were in favour of geographically de-averaged pricing for FOAS and FTAS (then called PSTN Originating Access and Terminating Access). However, despite its previous longstanding approach of applying geographically de-averaged pricing to these services, the ACCC ultimately decided to set a geographically averaged price for FOAS and FTAS, because it considered that no party had provided reliable information on the geographic costs of providing these services.<sup>143</sup> Telstra had provided data on cost relativities from the Analysys pricing model, but had not provided any information on its current actual costs of providing FOAS and FTAS services in different geographic areas.

Telstra has undertaken an analysis of the costs of supplying FOAS and FTAS in different geographic areas. This analysis confirms Telstra's previously stated view that the cost of supply varies significantly between CBD, metropolitan, provincial and rural areas.

The analysis of geographic costs of supply involved four steps:

- first, the total amount of cost allocated to FOAS and FTAS for FY2015 was taken from the FLSM;
- second, the key asset classes used to supply FOAS and FTAS were identified. These are local switching (■■■■ of the total cost allocated to FOAS and FTAS), inter-exchange cables (■■■■), transmission equipment (■■■■) and network buildings and support (■■■■). These assets take up ■■■■ of total FLSM assets.
- third, the asset cost for these four key asset classes was broken down into CBD, metropolitan, provincial and rural area costs based on their key cost drivers; and
- finally, the cost per minute of use in each area was calculated by dividing the total cost of each area divided by its number of FOAS and FTAS minutes.

Table 20 below shows the breakdown of costs between geographic areas in each of the key asset classes, based on the cost drivers for those asset classes.

<sup>142</sup> ACCC, Position paper on access pricing principles for non-dominant telephony networks, March 2001.

<sup>143</sup> ACCC, *Inquiry to make final access determinations for the declared fixed line services: Final Report*, July 2011, pp 107-108.

**Table 20: Geographic cost breakdown for key FOAS and FTAS asset classes**

Asset class	Cost driver	Geographic cost distribution			
		CBD	Metropolitan	Provincial	Rural
<b>Local switching – port assets (31%)</b>	SIOs	■	■	■	■
<b>Local switching – traffic dependent assets (69%)</b>	Minutes of use	■	■	■	■
<b>Inter-exchange cables</b>	Distance	■	■	■	■
<b>Transmission equipment</b>	Minutes, weighted by number of links	■	■	■	■
<b>Network buildings and support</b>	As for local switching	■	■	■	■

Table 21 below shows the FOAS and FTAS cost differential in each geographic area. This shows the significant cost disparity between regions.

**Table 21: FOAS and FTAS cost per minute of use, by geographic area**

Geographic area	Cost differential
<b>CBD</b>	■
<b>Metropolitan</b>	■
<b>Provincial</b>	■
<b>Rural</b>	■
<b>All areas</b>	■

Telstra has identified the main reasons for these cost differences, including:

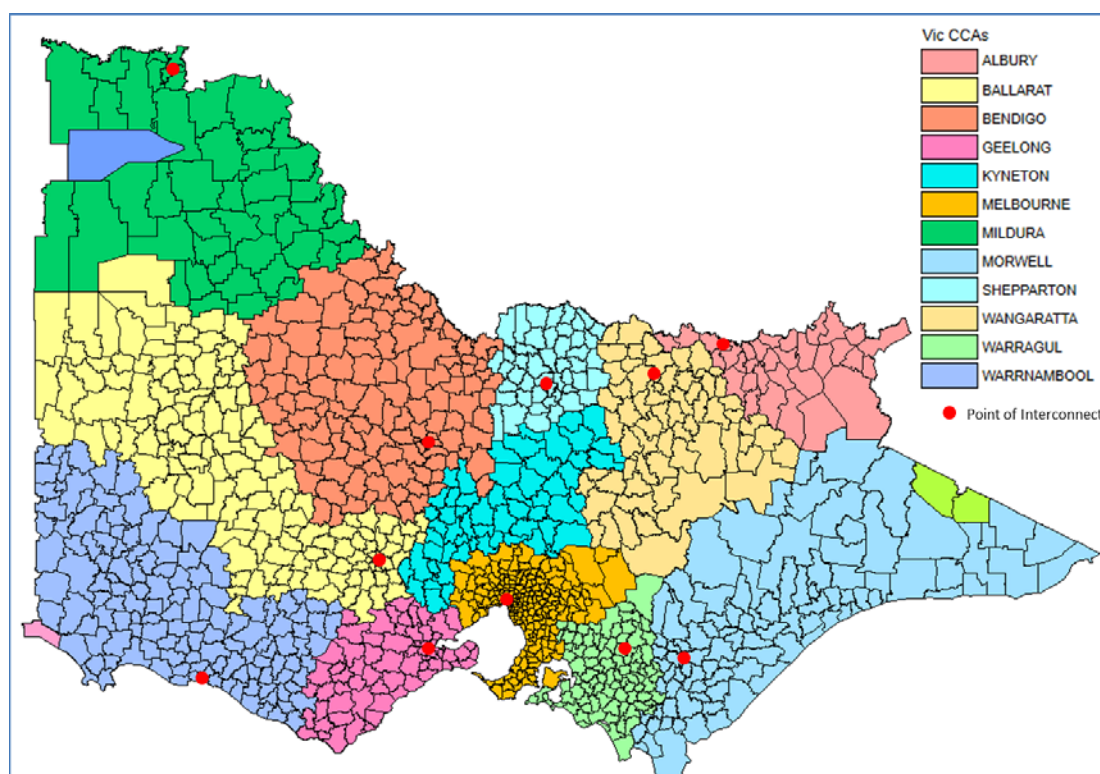
- **Economy of scale of local switching and network building and support** – there is a minimum cost in a local exchange to provide the capability of switching. The more SIOs are connected to an exchange, the less switching cost per SIO. Table 22 shows the average number of SIOs in a local exchange area, which varies from 11,293 in CBDs to 301 in a rural area. The same is to be said for network building and support. There is a minimum cost for exchange building infrastructure and support. An example is the cost of electricity which is on average \$0.15 per kWh for a large site as compared to \$0.28 for a small site.

Table 22: Average SIOs per local exchange

Geographic area	Average SIOs per exchange
<b>CBD</b>	11,293
<b>Metropolitan</b>	6,727
<b>Provincial</b>	4322
<b>Rural</b>	301
<b>All areas</b>	1568

- **Distance** – the longer distance between the local exchange and the Point of Interconnect, the more cost for cables and trenching. Figure 30 shows the local exchange boundaries and the Call Collection Area boundaries in Victoria. Even for a small state like Victoria, it shows the significant distance difference between metro and regional areas.

Figure 30: Call Collection Areas and Points of interconnect - Victoria



In light of the significant FOAS / FTAS cost differences between geographic areas, it is appropriate for service prices to be geographically de-averaged. De-averaging would ensure the cost of this service is appropriately shared between various users of this service. On the other hand, geographic averaging is likely lead to some users (particularly those users focused on CBD and metropolitan areas) bearing a disproportionate share of the cost burden.

De-averaging of FOAS / FTAS to reflect differences in the cost of supply between geographic areas would not be inconsistent with maintaining real price stability, including stability in price

relativities between regulated services. De-averaging of FOAS / FTAS will not affect the headline rate for this service, relative to prices for other regulated services.

Geographic de-averaging of the regulated price for this service is necessary in order to provide for cost recovery and ensure efficient use of the underlying infrastructure. The same result cannot be achieved by setting the regulated price on a nationally averaged basis, and allowing for negotiation of de-averaged rates. This is because access seekers would always be able to take the regulated rate where this is below the de-averaged cost of supply (i.e. in provincial and rural areas).

### 18.3 WDSL price structure

Telstra considers that the price structure established for WDSL in the 2011 FADs continues to be appropriate. In particular, the use of a two-part tariff and geographic de-averaging of port charges continues to be appropriate.

Telstra notes that the current inter-zone relativity between port charges may not precisely reflect the relative costs of providing WDSL in different geographic areas. Similarly, the relativity between port and VLAN charges may not accurately reflect the relative costs of access and usage.

However, in the interests of real price stability, Telstra considers that existing price relativities should be maintained for WDSL. As discussed below (section 20.2), Telstra considers that maintaining existing price relativities for the forthcoming regulatory period will promote the LTIE.

## 19. Term of pricing

Telstra notes that in specifying an expiry date for the FADs, the ACCC must have regard to the principle that the expiry date for the determination should be the same as the expiry date for the declarations unless, in the ACCC's opinion, there are circumstances that warrant the specification of another date.<sup>144</sup>

Telstra submits that the expiry dates for each of the replacement FADs should be 30 June 2019. This would closely align the expiry of the FADs with the expiry dates for each of the declarations (except WDSL, which has an earlier declaration expiry date<sup>145</sup>). This would imply a term for the replacement FADs of between four and five years, depending on when the ACCC makes the replacement FADs.

As noted in the Discussion Paper, there are potentially trade-offs involved in determining the length of the regulatory period. While a longer term may provide greater certainty to all stakeholders, there may be less confidence in longer-range forecasts required to determine prices for this longer period.

Telstra considers that it is appropriate to set pricing for a longer period (compared to the 2011 FADs) to provide all industry participants with certainty regarding fixed line prices during the transition to the NBN. A shorter period would not provide the regulatory certainty and price stability that is necessary to promoting the LTIE.

Telstra acknowledges that there may be more uncertainty around longer-range forecasts of demand and expenditure. However as discussed above (section 5), Telstra has developed a fully integrated Forecast Model, based on a bottom-up forecasting methodology. Telstra considers that the Forecast Model provides a robust view of demand and expenditure requirements out to FY2019, and is flexible enough to accommodate changes exogenous factors which may affect demand and expenditure over this timeframe (particularly changes in the NBN rollout plan or migration timetable).

In these circumstances, Telstra considers that the benefits of a longer term in terms of certainty and stability outweigh any potential detriment.

For the purposes of the indicative price calculations below, Telstra has effectively assumed a five-year regulatory period. That is, the indicative price calculation is based on the estimated revenue requirement for the five-year period from 1 July 2014 to 30 June 2019, with a one-off price adjustment for FY2016 calculated so that this revenue requirement can be recovered over the five-year period, assuming current prices remain in place for FY2015. Depending on when the replacement FADs are made and the term that is determined by the ACCC, this approach to calculating the price adjustment may need to be revisited.

<sup>144</sup> CCA, s 152BCF(6).

<sup>145</sup> This would imply an expiry date for the WDSL FAD which is beyond the expiry date for the WDSL declaration. Telstra notes that the ACCC may set FAD expiry date that is different to the declaration expiry date. The ACCC has previously set a FAD expiry date that is beyond the expiry date for the relevant service declaration (for DTCS, in the 2012 FAD for that service (Final Access Determination No. 1 of 2012)).

## 20. Approach to determining prices

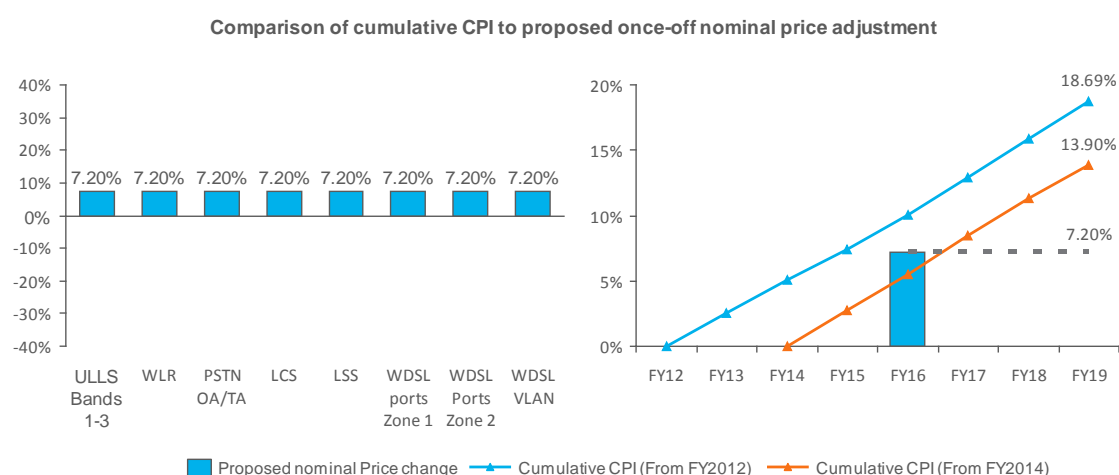
### 20.1 Summary of proposed pricing approach

Telstra proposes that prices for declared services be adjusted only to the extent necessary to ensure recovery of Telstra's supply costs, calculated and allocated in accordance with the Fixed Principles.

Further, Telstra submits that the necessary adjustment to prices be applied uniformly across the seven declared fixed line services, so as to maintain existing price relativities.

Under the NBN Rollout Base Case Scenario, the required adjustment to service prices is expected to be approximately 7.2% in nominal terms (applied once in FY2016, with prices held flat thereafter), which means that in real terms prices will decrease over the regulatory period (see Figure 31 below).

**Figure 31: Stable nominal price change – NBN Rollout Base Case Scenario**



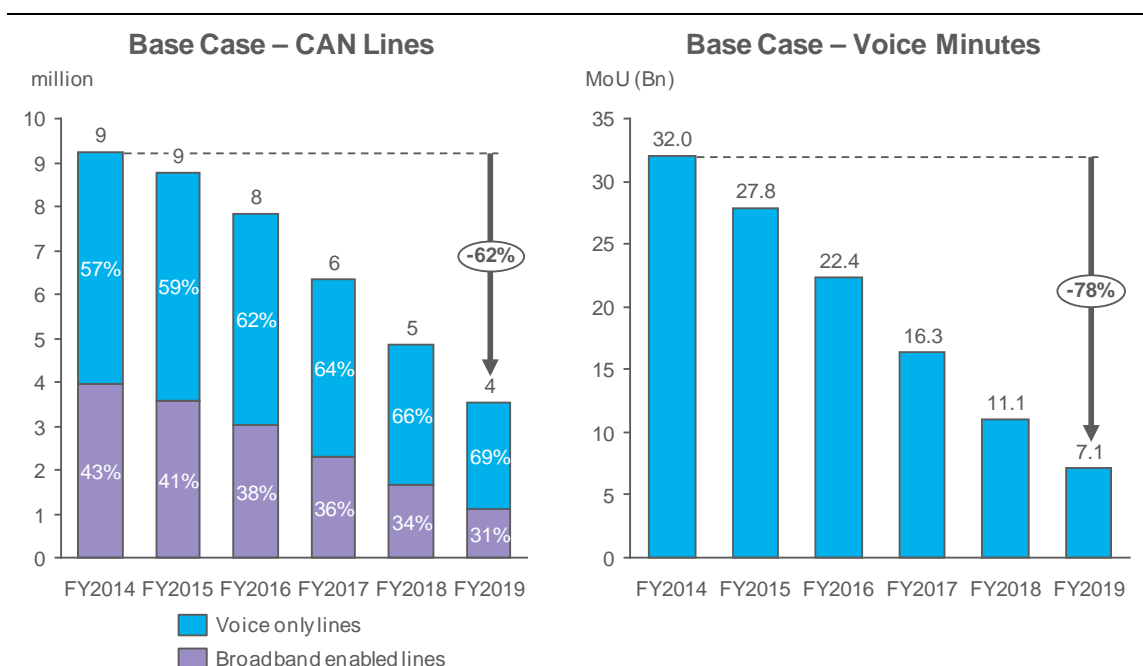
As noted above, for the purposes of this indicative price calculation, Telstra has effectively assumed a five-year regulatory period. That is, the indicative price calculation is based on the estimated revenue requirement for the five-year period from 1 July 2014 to 30 June 2019, with a one-off price adjustment for FY2016 calculated so that this revenue requirement can be recovered over the five-year period, assuming current prices remain in place for FY2015. Depending on when the replacement FADs are made and the term that is determined by the ACCC, this approach to calculating the price adjustment may need to be revisited.

The outcome of this indicative calculation reflects the net effect of several countervailing influences on prices, which are discussed briefly below.

#### *Declining demand for fixed line services*

Under the NBN Rollout Base Case Scenario, the Forecast Model estimates that total fixed line services demand (as measured by the number of active CAN lines) will decrease by 62% between FY2014 and FY2019, while total voice minutes will decline by 78% (Figure 32). All other things being equal, this would be expected to lead to a significant increase in service prices.

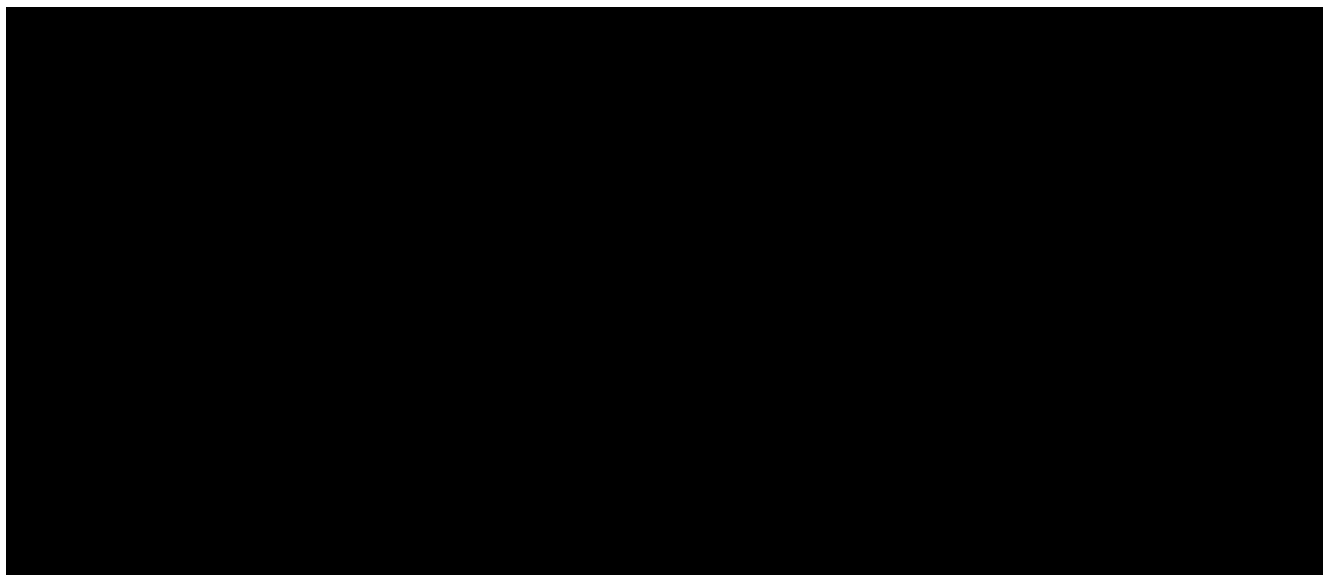
Figure 32: Forecast fixed line services demand – NBN Rollout Base Case



### Lower expenditure requirements

Under the NBN Rollout Base Case, operating expenditure is expected to decline by [REDACTED] in real terms over the forecast period to FY2019, while capital expenditure is expected to decline by [REDACTED] (Figure 33). As discussed above, Telstra considers that its approach to forecasting expenditure requirements is highly conservative, in the sense that it is likely to overstate the scope for reductions in expenditure as demand declines.

Figure 33: Forecast operating and capital Expenditure, NBN Rollout Base Case (\$FY2014)



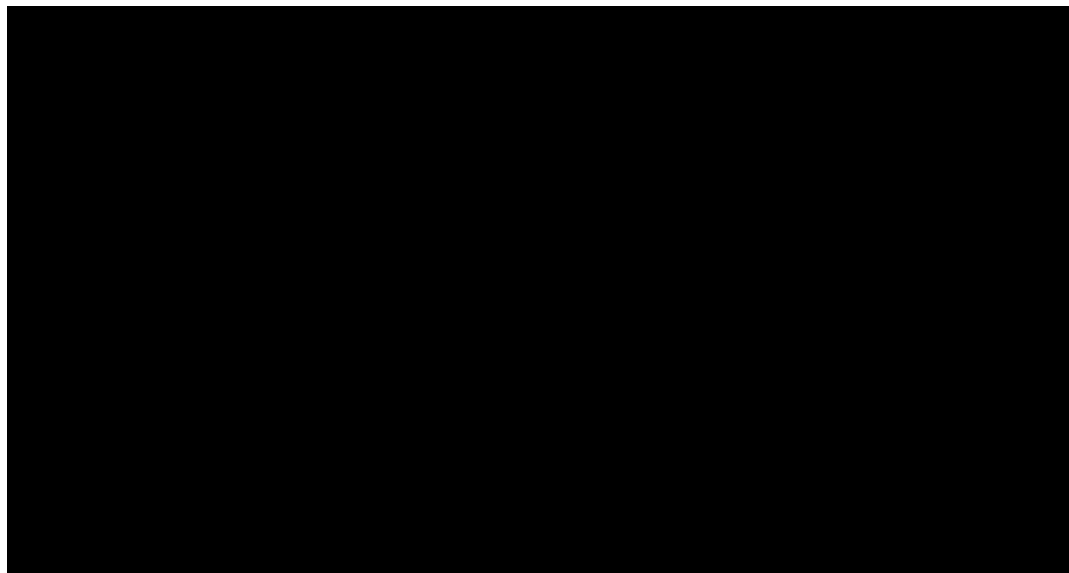
### Disposal of some RAB assets

In addition to forecasting capital expenditure, it is also necessary to forecast the value of any assets that will be disposed from the RAB over the forecast period.



Under the NBN Rollout Base Case Scenario, the proportion of the remaining copper asset value transferred to NBN Co (and disposed from the RAB) will increase each year as the FTTN deployment ramps up, with forecast disposals from the asset base equivalent to [REDACTED] (Figure 34).

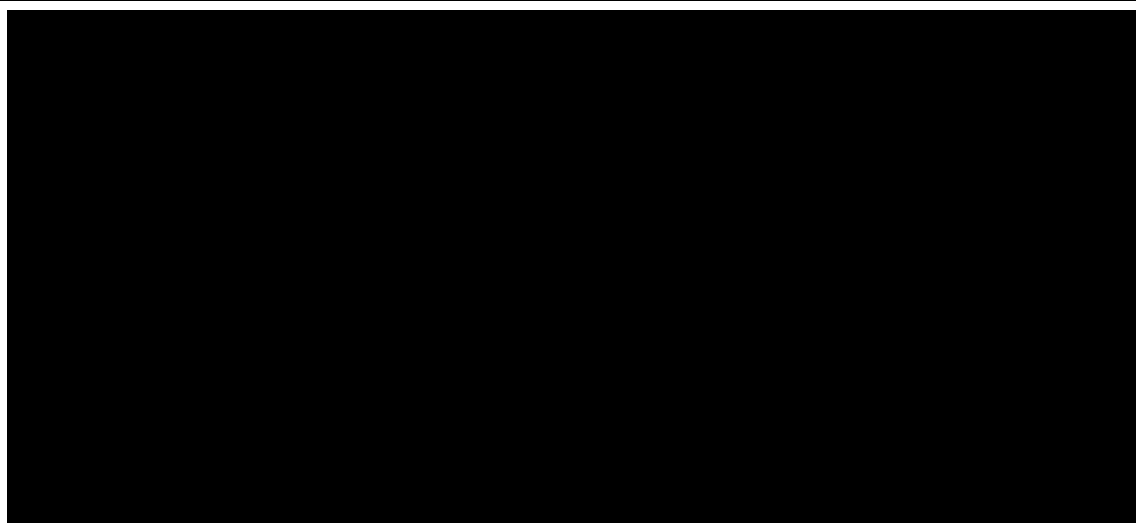
**Figure 34: Forecast asset disposals, NBN Rollout Base Case (% of RAB value, \$FY2009)**



#### *Lower total revenue requirement*

Due to the decline in expenditure requirements and disposal of some existing RAB assets, the total revenue requirement is forecast to decline significantly, over the period to FY2019. Figure 35 sets out the forecast annual revenue requirement under the NBN Rollout Base Case – showing the forecast decline in the revenue requirement over the current regulatory period, as well as the significant reduction in the annual revenue requirement compared to the previous regulatory period.

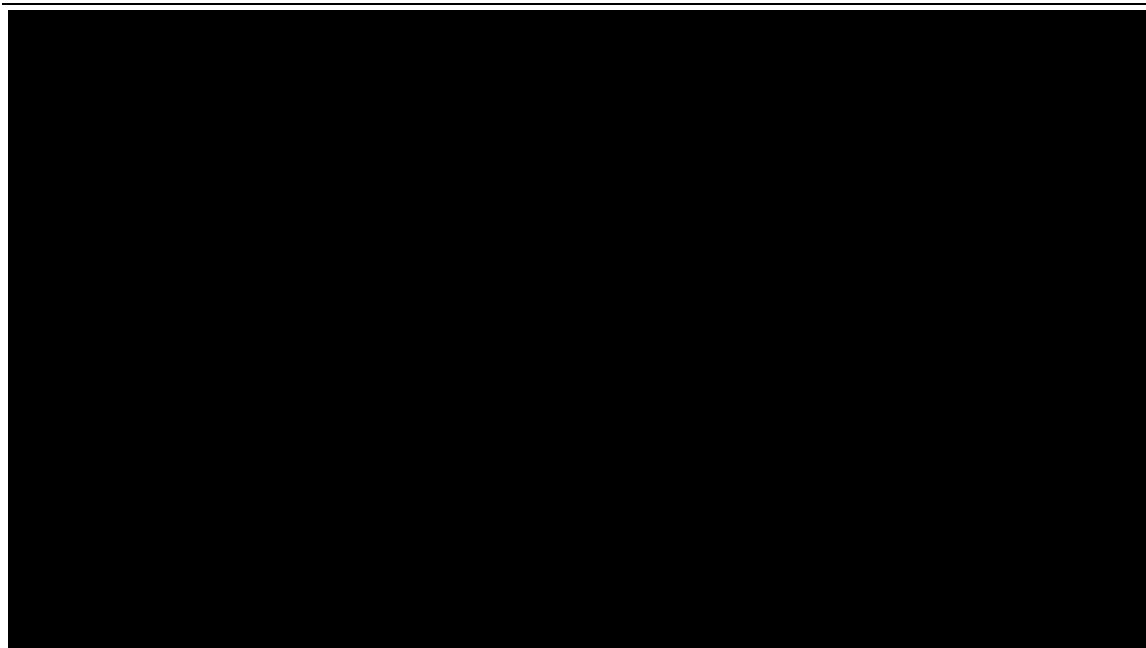
**Figure 35: Forecast revenue requirement, NBN Rollout Base Case (\$FY2009)**




### *Increasing allocation of costs to other services*

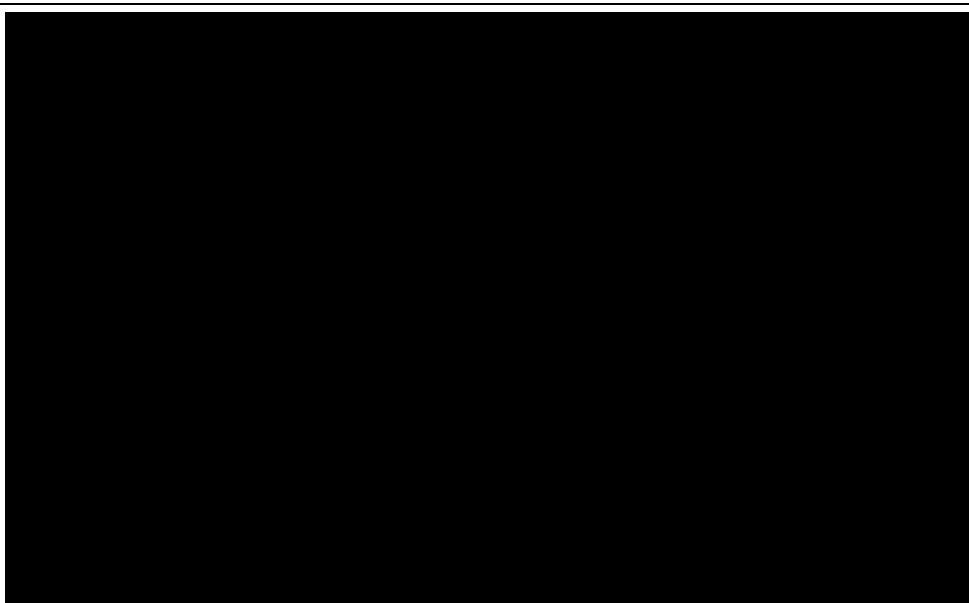
Due to increasing usage of the fixed line assets by other services (including NBN services), a declining share of the total fixed line network revenue requirement will be allocated to regulated services. Figure 36 below shows the expected change in allocations between FY2015 and FY2019.

**Figure 36: Forecast Allocation of Costs, NBN Rollout Base Case (\$FY2009)**



As a result of the cost allocation process, the revenue requirement allocated to the regulated fixed line services will decrease over the regulatory period, by more than the total revenue requirement. As set out in Figure 37, under the NBN Rollout Base Case Scenario the revenue requirement allocated to these services will decrease by  in real terms by FY2019.

**Figure 37: Forecast revenue requirement allocated to regulated fixed line services, NBN Rollout Base Case (\$FY2014)**



Telstra acknowledges that a number of inputs into this indicative price calculation are linked to assumptions about the NBN rollout timetable. Therefore, if and when more information becomes available on the NBN timetable, the price adjustment calculation will need to be updated.

## 20.2 Assessment of proposed prices against the statutory criteria

For the reasons set out below, Telstra's proposed approach to determining prices for the declared services is in the LTIE and the in interests of all persons who have rights to use the declared service. It also consistent with the Fixed Principles and takes into account Telstra's legitimate business interests and the direct costs of providing the service.<sup>146</sup>

### 20.2.1 Long term interests of end users

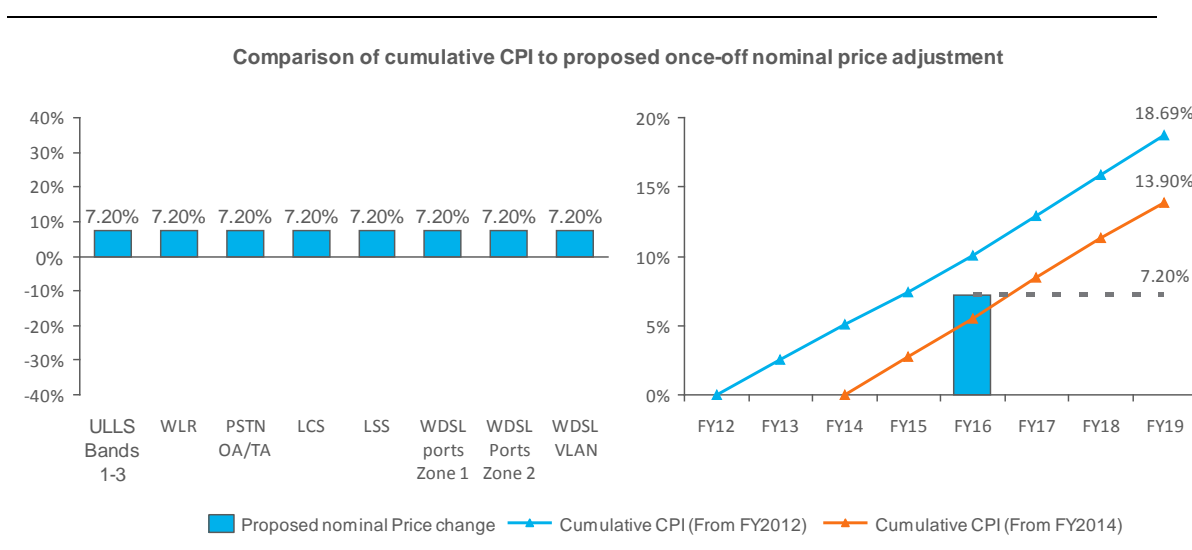
As discussed in section 1.2.1, Telstra considers that the LTIE will be promoted where:

- the access provider has a reasonable opportunity to recover the cost of supplying the regulated services; and
- price levels and relativities in the next regulatory period are broadly consistent with established regulatory rates, in real terms.

Based on Telstra's current indicative price modelling (which is based on NBN Rollout Base Case), it is clear that maintaining current prices would not allow Telstra to recover the cost of supplying the fixed line services. Therefore maintaining (or lowering) current prices would be contrary to the LTIE, and inconsistent with the Fixed Principles. In order to ensure that Telstra is able to recover its costs, Telstra anticipates that current prices will need to be adjusted.

As noted above, Telstra proposes that prices for declared services be adjusted only to the extent necessary to ensure recovery of Telstra's supply costs, and that this adjustment be applied uniformly across the seven declared fixed line services, as a once-off nominal increase in service prices. Under the NBN Rollout Base Case Scenario, the required adjustment to service prices is expected to be approximately 7.2% in nominal terms (applied once in FY2016, with prices held flat thereafter), which means that in real terms prices will decrease over the regulatory period (see Figure 38 below).

**Figure 38: Stable nominal price change – NBN Rollout Base Case Scenario**



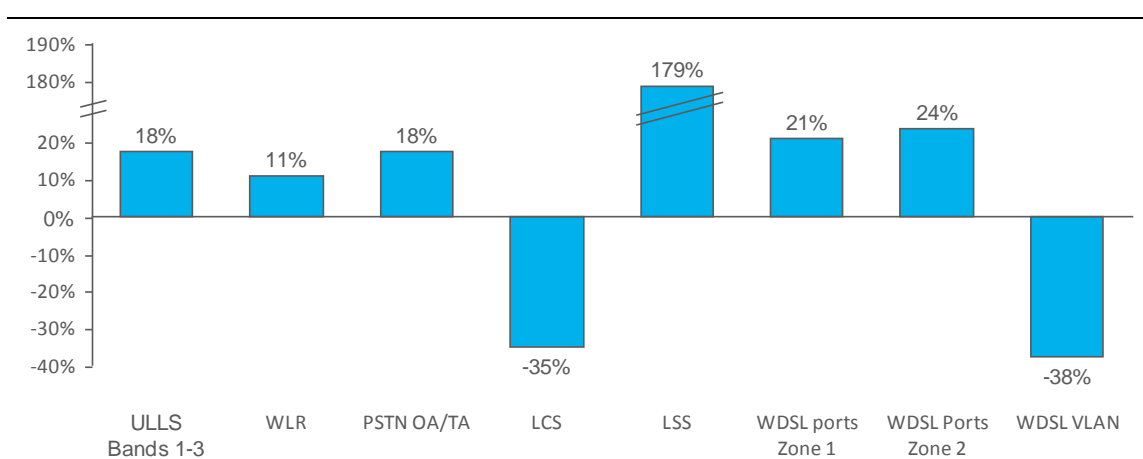
<sup>146</sup> CCA, s 152BCA(1).

As discussed below, this approach to setting prices will avoid a number of issues that could prove detrimental to the LTIE if prices were to be set on an alternative basis.

*Potential impact on the LTIE of adjusting service prices without maintaining existing relativities*

One possible approach to adjusting prices to allow for cost recovery would be simply update the FLSM cost inputs and allocation rules, without any adjustment to price relativities between services. However, as shown in Figure 39 below, a simple application of the ACCC's FLSM using a fully allocated approach and updated cost inputs leads to prices for some services increasing by more than 150%, whilst others decrease by 35%.

**Figure 39: Indicative price outcomes from simple updating of the FLSM**



Although such an outcome would be consistent with the Fixed Principles and provide Telstra with the opportunity to recover its costs, it would significantly change price relativities and potentially create market disruption, which is unlikely to promote efficient investment and the interests of end users. Volatility in pricing is inconsistent with regulatory stability and potentially disruptive to NBN migration.

For example, under the NBN Rollout Base Case, this approach would see WDSL VLAN prices reduce significantly, whereas pricing for WDSL ports, ULLS and LSS would rise significantly. These changes in part reflect variations in the relative change in cost and demand expected for different service types over the forecast period, but they also reflect the fact that existing regulatory prices are not fully cost reflective and incorporate prior regulatory judgments as to the appropriate relativities as between different service types and price structures.

Were the ACCC to set pricing that significantly changes the price relativities in this manner, this will likely result in a responsive shift in demand (i.e. intra-migration of wholesale fixed line services). Pre-NBN intra-migrations due to price volatility would be contrary to the LTIE as it would:

- lead to multiple service disruptions whilst technology cutovers occur for no end benefit (no improvements to speed or service quality will be achieved by migrating between legacy based technologies);
- result in the unnecessary and costly disruption to the wholesale and retail fixed line services markets during the transition to the NBN;
- deter investment in, and use of, infrastructure-based services (which could also de-stabilise past investments) if there are significant decreases in resale prices relative to ULLS and LSS pricing;

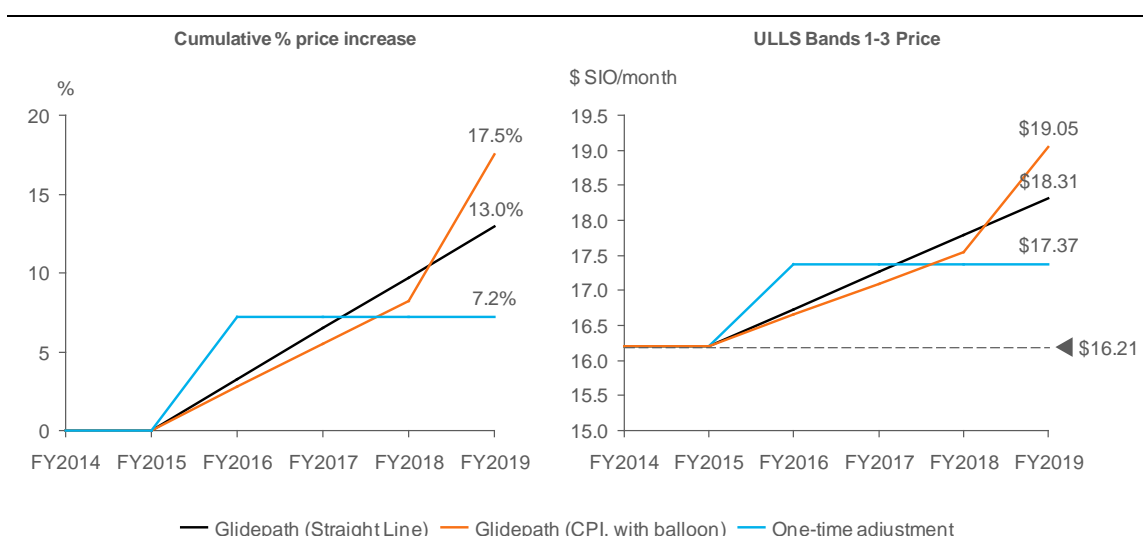
- shift the industry's focus away from the NBN migration to intra-migrations on the legacy network and, hence, distract industry players from the investment and innovation in relation to the transition to a competitive NBN business model; and
- make it difficult for Telstra to manage demand responses on the fixed line network which could lead to a deterioration of the end user experience (e.g. if the pricing of WDSL relative to the other fixed services is reduced, WDSL demand is expected to increase leading to network congestion and lower service quality).

#### *Potential impact on the LTIE from adjusting prices on a glide path*

Another alternative approach would be to adjust prices on a 'glide path'.

However given the decline in demand that will occur over the regulatory period (and the fact that the rate of decline is expected to accelerate over the period), a graduated response to increasing prices (i.e. a glide path) could result in very high nominal increases in later years. Figure 40 below shows the indicative impact of adopting a glide path approach to adjusting prices.

**Figure 40: Potential price changes under glide-path versus one-time adjustment (NBN Rollout Base Case)**



As can be seen, a glide-path approach to adjusting prices is likely to lead to significantly higher prices for remaining copper customers towards the end of the NBN migration period (and higher prices than would result from a one-off uniform adjustment). Under the NBN Rollout Base Case, if prices were set using a straight line glide path, ULLS Bands 1-3 prices could reach \$18.31 by FY2019. If prices were set to increase in line with forecast CPI between FY2016 and FY2018, and then set to increase as high as required to recover costs, ULLS prices could exceed \$19.

A one-time adjustment to nominal prices, rather than a glide-path reduces the risk to end users that remain on the NBN until the end of the transition period (due to the particular rollout schedule adopted by NBN Co) that they could face far higher prices if a glide-path approach were adopted.

For these reasons, Telstra proposes that prices for declared services be adjusted only to the extent necessary to ensure recovery of Telstra's supply costs, and that this adjustment be applied uniformly across the seven declared fixed line services. This approach will provide for real price stability to the extent possible, while ensuring compliance with the Fixed Principles and providing Telstra a reasonable opportunity to recover its costs.

## Conclusion

A one-time adjustment to nominal prices is in the LTIE, avoiding the issues for end users associated with moving to cost reflective prices or a glide-path for the regulated fixed line services:

- By maintaining existing price relativities, a one-time adjustment to nominal prices will avoid unnecessary pre-NBN intra-migration of wholesale fixed line services.
- A one-time adjustment to nominal prices rather than a glide-path reduces the risk to end users that remain on the NBN until the end of the transition period (due to the particular rollout schedule adopted by NBN Co) that they could face far higher prices if a glide-path approach were adopted.

A stable price path through a modest nominal increase will also avoid potential sticker shock as customers migrate to the NBN. As noted in section 1.4, significant reductions in legacy service pricing could create unrealistically low expectations of the value of broadband, with the implication that when NBN services become available to customers they will either delay migrating to the NBN or choose not to. The “sticker shock” effect could also skew the take-up of NBN products more towards the lowest-value entry level options than would otherwise have been the case. The risks associated with significant price movements for legacy services during a transition to high-speed broadband networks have recently been highlighted in New Zealand (see Box 2 below).

### Box 2: New Zealand experience

In November 2013, the Commerce Commission in New Zealand substantially reduced the regulated price of wholesale copper based broadband services as a result of the requirement to move from retail-minus pricing to cost-based pricing based on international benchmarks. The result was that the broadband component of the wholesale charge (ie, the difference between the wholesale broadband price and the unbundled local loop price) fell by more than 50 per cent to AUD\$10.17 (NZD\$10.92) a month. The reduction in copper pricing, particularly relative to the new fibre service was considered to pose a threat to New Zealand's broadband policy objectives of moving customers across the new fibre network.

As a result there have been a number of legal challenges and the Commerce Commission is now in the process of implementing a TSLRIC model.

The New Zealand Minister of Communications, Amy Adams highlighted the importance of pricing certainty and the need to focus on the transition to the ultra-fast broadband network (the New Zealand equivalent of the NBN) stating that “[w]hat we don't need is all the retail service providers and Chorus spending the next three years in litigation - with no certainty of price and no focus on providing New Zealanders with access to new, world-leading technology.”

The New Zealand experience cautions against considering the impacts of legacy based services in isolation. There is an inherent relationship between legacy and next generation services. Maintaining price stability will ensure users are appropriately incentivised to migrate to the NBN in a timely manner.

## 20.2.2 Interests of all persons who have a right to use the declared service

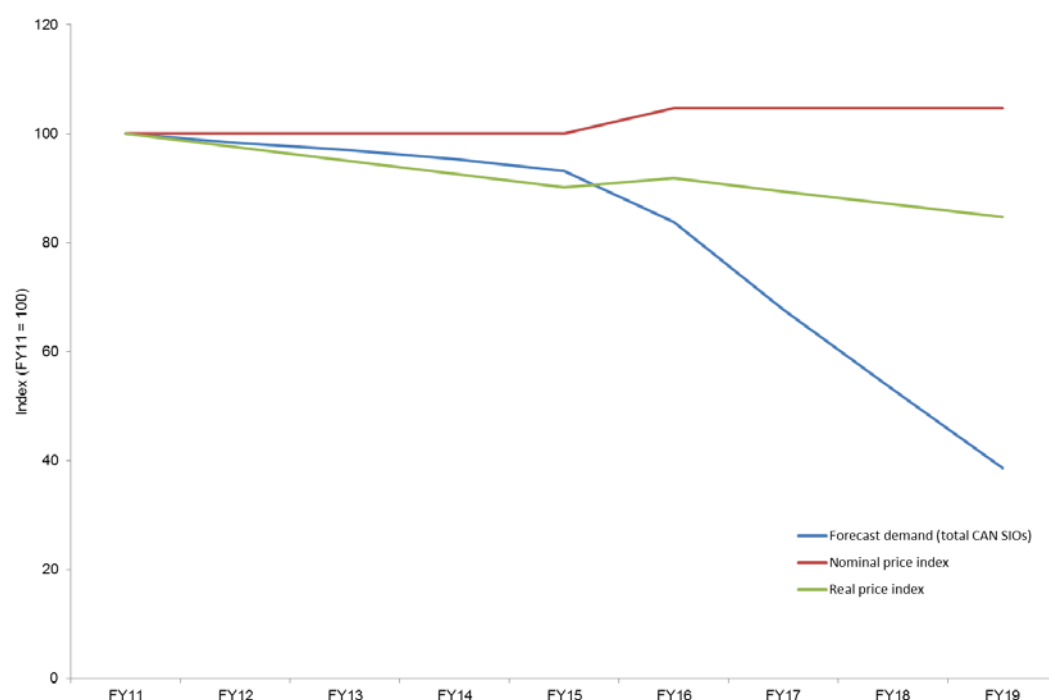
Telstra's proposed approach to adjustment of prices is in the interests of access seekers as it spreads the impact of the required adjustment evenly among access seekers, and ensures that there is no impact on price relativities.

Further, as noted above, Telstra's current indicative price modelling (which is based on the NBN Rollout Base Case) suggests that the required price adjustment will be less than the forecast CPI

increase over the regulatory period. In other words, it is expected that there will be a slight decline in service prices, in real terms.

The expected decline in real service prices is despite a very significant reduction in expected usage of the fixed line network over the regulatory period (Figure 41 below). Ordinarily it may be expected under a BBM pricing approach that prices would increase in real terms as network usage declines. However in this case it is expected that there will be a slight decline in service prices in real terms. This is due to a number of factors, including very conservative forecasts of expenditure requirements, a reduction in the cost of capital, and a declining share of costs being allocated to fixed line services (due in part to assumed increases in use of network assets by NBN Co).

**Figure 41: Indicative real and nominal price movements, and forecast network usage (SIOs)**



Telstra's proposed approach to price adjustment will provide certainty to access seekers, allowing them to make business and investment decisions to continue to earn healthy margins. It avoids unnecessary and costly disruption to the wholesale and retail fixed line services markets which would otherwise result from pricing volatility and intra-migration of wholesale fixed line services.

Pricing volatility is also likely to deter investment in, and use of, infrastructure-based copper services and de-stabilise past investments. As noted above, without adopting Telstra's proposal, a simple application of the ACCC's FLSM model using up-to-date cost forecast inputs (and a fully allocated approach) will lead to a significant reduction in WDSL VLAN prices whilst prices for infrastructure based services (ULLS and LSS) will increase significantly. This could result in responsive demand away from infrastructure based services, which would discourage further investment by access seekers and de-stabilise past investments. If, on the other hand, price relativities are held stable, the use of ULLS and LSS expansion is expected to continue given the relatively short payback period for the installation of a DSLAM and the nature of the NBN roll out, which is staggered.

A modest nominal price increases at less than the rate of inflation will, therefore, promote investment, encourage innovation and will not have an adverse impact on the ability of access seekers to earn a reasonable return on investment.



### 20.2.3 Conclusion

Telstra's approach is consistent with the Fixed Principles and ensures the promotion of the LITE, as well as properly taking into account the costs of providing access to the services, the interests of all persons who have a right to use the declared service and the legitimate business interests of the access provider, as required under subsection 152BCA(a).<sup>147</sup> End users are ensured price stability and a sustained quality of service in the transition period, access seekers will continue to be able to earn healthy margins and will be afforded certainty of price outcomes necessary for investment decisions, and access providers are able to recover the costs of providing the services.

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<sup>147</sup> CCA, s 152BCA(1)(b), (c) and (d).

## 21. Application of regulated price terms

Telstra submits that, as part of making the replacement FADs for LCS and WLR, the ACCC should provide that the Part XIC Standard Access Obligations are not applicable in areas where substantial competitive infrastructure exists, in particular CBD areas. This would imply that regulated price terms would not apply for these services in those areas.

Telstra will provide reasons and evidence for this in a separate submission, to be provided by 10 October 2014.

## Appendix 1: Response to ACCC questions

Item	ACCC Question	Response
BBM RKR information provision		
1	What are possible approaches for addressing the consequences of uncertainty regarding the NBN for estimating the BBM RKR forecasts as well as setting FAD prices?	Refer to section 0.
Capital expenditure forecasts		
2	Whether Telstra's forecasting methodology for capital expenditure is reasonable having regard to the LTIE, particularly in respect of the objective of encouraging the economically efficient use of and investment in infrastructure used to provide the services, and the matters that the ACCC must take into account when making the FADs. Are there any alternative approaches that are likely to give a measurably better outcome having regard to the LTIE and the other matters that the ACCC must take into account? Is it appropriate for Telstra to include 'capitalised interest' in its forecast capital expenditure, on the basis of recover the financing cost incurred during the construction period of capital expenditure?	<p>Refer to sections 5 and 8, and to Appendix 4 (Forecast Model Documentation).</p> <p>Telstra has prepared its forecasts based on a robust bottom-up methodology. This methodology uses information on historic expenditure requirements in relevant asset categories, and applies trend adjustments to account for expected changes in expenditure requirements over the next five years. This methodology fully accounts for the potential impact of NBN rollout on expenditure.</p> <p>This approach ensures that forecast capital expenditures reflect prudent and efficient costs, and therefore provides appropriate incentives for efficient use of and investment in infrastructure.</p> <p>As explained in section 8.2, capitalised interest has been removed from Telstra's capital expenditure forecast.</p>
3	How should Telstra's BBM RKR capital expenditure forecasts for the period of 2014–15 to 2018–19 be assessed against prudence and efficiency criteria? What factors should the ACCC consider when assessing the prudence and efficiency of Telstra's forecast capital expenditure?	<p>Refer to section 8.6.</p> <p>Clause 6.10 of the Fixed Principles sets out matters that are relevant to whether capital expenditure forecasts reflect prudent and efficient costs. These include levels of expenditure in past periods, reasons for proposed changes to expenditure between periods, whether the access provider's asset management and planning framework reflects best practice, relevant regulatory obligations, and other relevant matters.</p> <p>A particularly relevant matter in this context is the strong efficiency incentives faced by Telstra, due to certain features of the regulatory framework (e.g. no true-up for actual expenditure) and because Telstra itself bears the majority of the capital cost recovery burden. This means that Telstra's historic actual expenditure can be assumed to reflect prudent and efficient costs, and is therefore a reasonable baseline for forecasting future efficient capital expenditure.</p>

Item	ACCC Question	Response
4	What is the likely impact of the NBN rollout on Telstra's capital expenditure on its CAN and Core networks and how should this be taken into account in forecasting capital expenditure?	<p>Refer to section 8 and Appendix 4.</p> <p>The methodology applied by Telstra accounts for the potential impact of NBN rollout on expenditure, through the impact of customer migration on demand for fixed line services. It does so by applying trend adjustments to each category of expenditure, which reflect the historically observed relationship between expenditure in those categories and demand for fixed line services.</p> <p>Expenditure forecasts presented in this submission are based on the NBN Rollout Base Case. The Forecast Model allows forecasts to be updated if NBN rollout plans change.</p> <p>This is explained in detail in Appendix 4.</p>
5	To what extent will the impact of increasing demand for broadband data traffic and mobile services offset the impact of falling demand for voice and broadband services on capital expenditure needs?	<p>Telstra's Forecast Model accounts for both the impact of data traffic growth, and the impact of expected declines in voice traffic and SIOs. Different categories of capital expenditure have different drivers, with some categories driven by data traffic, and others driven by voice traffic or SIOs.</p> <p>Overall, the effect of increasing data traffic is expected to be outweighed by the effect of declining voice traffic and SIO numbers.</p> <p>The approach to accounting for each of these drivers is explained in detail in Appendix 4.</p>
6	Does the information provided on the top 10 IMC programs in the BBM RKR response provide adequate quantitative support for the capital expenditure forecasts?	<p>Refer to Appendix 4</p> <p>Telstra considers that it would be impractical to interrogate drivers of capital expenditure for every IMC program.</p>
Operating expenditure forecasts		
7	Whether Telstra's forecasting methodology for operating expenditure is reasonable having regard to the LTIE, particularly in respect of the objective of encouraging the economically efficient use of and investment in infrastructure used to provide the services, and the matters that the ACCC must take into account when making the FADs. Are there any alternative approaches that are likely to give a measurably better outcome having regard to the LTIE and the other matters that the ACCC must take into account when making the FADs?	<p>Refer to sections 5 and 7 and Appendix 4.</p> <p>Telstra has prepared its forecasts based on a robust bottom-up methodology. This methodology uses information on historic expenditure requirements for relevant activities, and applies trend adjustments to account for expected changes in expenditure requirements over the next five years. This methodology fully accounts for the potential impact of NBN rollout on expenditure.</p> <p>This approach ensures that forecast operating expenditure reflects prudent and efficient costs, and therefore provides appropriate incentives for efficient use of and investment in infrastructure.</p>

Item	ACCC Question	Response
8	What factors should be considered when assessing the prudence and efficiency of Telstra's operating expenditure forecasts?	<p>Refer to section 7.5.</p> <p>Clause 6.9 of the Fixed Principles sets out matters that are relevant to whether operating expenditure forecasts reflect prudent and efficient costs. These include levels of expenditure in past periods, reasons for proposed changes to expenditure between periods, relevant regulatory obligations, and other relevant matters.</p> <p>A particularly relevant matter in this context is the strong efficiency incentives faced by Telstra, due to certain features of the regulatory framework (e.g. no true-up for actual expenditure) and because Telstra itself bears the majority of the operating cost recovery burden. This means that Telstra's historic actual expenditure can be assumed to reflect prudent and efficient costs, and is therefore a reasonable baseline for forecasting future efficient operating expenditure.</p>
9	Whether Telstra's 2013–14 forecasts represent a reasonable baseline for the BBM RKR operating expenditure forecasts.	<p>Refer to section 7.5.</p> <p>As noted above, Telstra faced very strong efficiency incentives, due to certain features of the regulatory framework and because Telstra itself bears the majority of the operating cost recovery burden. This means that Telstra's actual expenditure for FY2014 will reflect prudent and efficient costs, and is therefore a reasonable baseline for forecasting future efficient operating expenditure.</p>
10	Whether Telstra's BBM RKR operating expenditure forecasts for the period of 2014–15 to 2018–19 reflect prudent and efficient operating expenditure required for Telstra's fixed line network.	<p>Refer to section 7.5.</p> <p>As noted above, Telstra's historic actual expenditure (which forms the baseline for the forecasts) can be assumed to reflect prudent and efficient costs. Further, the trend adjustments to expenditure in each of forecast years include adjustments to reflect ongoing efficiency improvements. Therefore the resulting forecasts do reflect prudent and efficient costs.</p>
11	Whether Telstra's assumptions underpinning the trends applied to the base year operating expenditure forecast are reasonable. What scope exists for further efficiency gains given Telstra's views on productivity and trends for network faults? In light of the Telstra's previous statements that its fixed line operating expenditure is a variable cost, should forecast operating expenditure be responsive to forecast changes in demand?	<p>In Telstra's Forecast Model, trend adjustments are made to reflect both ongoing efficiency improvements and the expected impact of changes in demand (where activities or cost components are demand-driven).</p> <p>These trend adjustments are explained in detail in Appendix 4.</p> <p>The Forecast Model and underlying assumptions have been subject to independent expert review (refer to Appendix 5).</p>

Item	ACCC Question	Response
12	What are the likely impacts of the NBN rollout on Telstra's operating expenditure on its CAN and Core networks and how should this be taken into account in forecasting operating expenditure?	<p>The Forecast Model accounts for the potential impact of NBN rollout on expenditure, through the impact of customer migration on demand for fixed line services. It does so by applying trend adjustments to relevant cost components or activities, where there is a known demand driver for those costs or activities.</p> <p>This is explained in detail in Appendix 4.</p>
Demand forecasts		
13	How should the uncertainty surrounding the scheduled rollout of the NBN and its impact on the forecasts be addressed?	Refer to section 0.
14	Is there sufficient transparency in the information that has been provided by Telstra regarding the forecasting methodology it has adopted? If not, what further information is required?	<p>Telstra has sought to be fully transparent about its forecasting methodology through the Forecast Model Documentation (Appendix 4) and material previously provided in response to the BBM RKR.</p> <p>However if the ACCC considers that further information is required to assess the forecasts, Telstra would be happy to discuss these further information requirements.</p>
15	What other views can you provide regarding the demand for declared and non-declared services provided on the PSTN?	Refer to section 6 and Appendix 4.
16	What other factors should be considered when assessing the reasonableness of Telstra's demand forecasts?	<p>A key issue in this context is the degree of uncertainty around the NBN rollout timetable. It is for this reason that Telstra has developed a fully integrated forecast model which is able to accommodate a range of possible NBN scenarios.</p> <p>It is critical however that the approach to considering alternative demand scenarios be internally consistent, as in the Forecast Model.</p>
Cost allocation		
17	Whether the partially allocated approach or Telstra's fully allocated cost approach is likely to best reflect the cost of declared services for the next regulatory period.	<p>Refer to Part E of this submission and the expert report of Mr Balchin (Appendix 2).</p> <p>Under a partially allocated cost approach, the costs of the fixed line network are not fully allocated, and so Telstra is denied a reasonable opportunity to recover its costs which is contrary to the LTIE.</p> <p>Further, under a partially allocated cost approach, Telstra bears a disproportionate share of the costs of the fixed line network.</p>

Item	ACCC Question	Response
18	Are there any issues arising from the partially allocated cost approach?	<p>Refer to Part E of this submission and the expert report of Mr Balchin (Appendix 2).</p> <p>A partially allocated cost approach is inconsistent with the Fixed Principles and the LTIE.</p> <p>Clause 6.14 of the Fixed Principles states that allocation of the costs of operating the PSTN should reflect the relative usage of the network by various services. However under a partially allocated cost approach, the share of costs allocated to the declared services will not reflect their relative usage of the network.</p> <p>Further, as the partially allocated cost approach implies a disproportionate sharing of network costs, it will not promote efficient competition, nor will it encourage efficient use of and investment in fixed line network infrastructure. Therefore the partially allocated cost approach will not promote the LTIE.</p>
19	What are the potential issues with Telstra's proposed fully allocated cost approach?	<p>Refer to Part E of this submission.</p> <p>Telstra considers that use of a fully allocated cost approach is consistent with the Fixed Principles and will promote the LTIE.</p> <p>A fully allocated cost approach ensures that the allocation of fixed line network costs fairly reflects the relative usage of the network by various services. Full allocation of costs is also necessary to ensure that Telstra has a reasonable opportunity to recover the cost of supply.</p>
20	Are there alternative cost allocation approaches to the partially allocated approach and Telstra's fully allocated cost approach that may more closely reflect declared services consumption of fixed line resources?	<p>Use of a fully allocated cost framework is highly conventional, and is used in many regulated industries.</p> <p>Telstra considers that in this case a fully allocated cost framework is required by the Fixed Principles, in order to ensure that the allocation of costs fairly reflects relative usage of the network.</p> <p>Telstra is not aware of any other approach to allocation which would ensure a fair sharing of costs and provide Telstra a reasonable opportunity to recover its costs.</p>
21	What further information would you require from Telstra to consider whether the fully allocated cost approach proposal results in an approach that is simpler, more transparent and more cost reflective?	<p>Telstra has sought to be fully transparent about its forecasting methodology through the allocation model documentation and further information provided in this submission.</p> <p>However if the ACCC considers that further information is required to assess the merits of the proposed allocation approach, Telstra would be happy to discuss these further requirements.</p>



Item	ACCC Question	Response
22	What are the impacts of higher regulated prices that may arise when moving from a partially allocated cost approach to Telstra's fully allocated cost approach?	<p>Refer to section 20.</p> <p>Telstra is proposing a small nominal increase in service prices for the forthcoming regulatory period. However in real terms, prices will be lower and not materially different by the end of the regulatory period.</p> <p>This small nominal price increase is necessary to provide Telstra with a reasonable opportunity to recover the cost of operating and maintaining the fixed line network, and to ensure that the cost recovery burden is shared fairly among all users of the network.</p>
Declining demand		
23	How should the impacts of declining demand be shared between Telstra and access seekers?	<p>Refer to Part E of this submission and the expert report of Mr Balchin (Appendix 2).</p> <p>Under a building block model, it is appropriate that the impact of declining demand on unit costs be shared among all users of the network. This means that if demand falls, leading to lower utilisation of the network, unit costs may be expected to rise for all network users.</p> <p>In this case, where the fixed line network is used by Telstra and access seekers, it is appropriate for the impacts of declining demand to be shared between Telstra and access seekers, in proportion to their relative use of the network.</p>
24	Whether the ACCC's current approach to cost allocation, in its current form, appropriately shares the impacts of declining demand between Telstra and access seekers. Please explain your reasons for this view.	<p>Under the ACCC's partial allocation framework, the impact of declining demand on unit costs is not shared proportionately among all users of the network. Under the ACCC's approach, a decline in overall usage of the fixed line network has no impact on the calculation of unit costs for declared services acquired by access seekers. This means that the impact of declining demand is entirely borne by other fixed line services, most of which are Telstra retail services.</p> <p>In short, Telstra bears a disproportionate share of the impact of declining demand on unit costs.</p>
25	Does Telstra's revised cost allocation framework, appropriately share the impacts of declining demand between Telstra and access seekers? Please explain your reasons for this view.	<p>Under a fully allocated cost framework, the impact of any change in unit costs (either due to declining demand, or due to other factors) is shared proportionately among all users of the network.</p>
26	Should different sources of declining demand be accounted for in different ways? Please explain your reasons for this view.	<p>Refer to section 15.6.1 and the expert report of Mr Balchin (Appendix 2).</p> <p>It is neither appropriate nor practicable to seek to identify different drivers of declining demand and account for these differently.</p>

Item	ACCC Question	Response
		The Fixed Principles clearly state that the allocation of the costs of operating the PSTN should reflect the relative usage of the network by various services. It would be contrary to the Fixed Principles for one user of the network to bear the full impact of declining demand from certain sources, as it would lead to this user bearing a disproportionate share of the costs of operating the network.
27	Should Telstra bear the impacts of some sources of declining demand but not others? Please explain your reasons for this view.	Refer to response to question 26 above.
28	Are there some sources of declining demand that are more appropriately borne by access seekers?	Refer to response to question 26 above.
29	What are some potential options for separately identifying and isolating different sources of declining demand?	Refer to response to question 26 above.
Determining prices		
30	The advantages and disadvantages of moving to a more flexible approach to setting prices for individual services compared with the current approach.	<p>Refer to section 20.</p> <p>Telstra considers that a more flexible approach to determination of prices is likely to promote the LTIE, provided that this flexibility is suitably constrained.</p> <p>Most importantly, any determination of prices must be constrained by the requirements of the Fixed Principles (which were set in 2011 by taking the s152BCA criteria into account and to further the object of promoting the LTIE), that Telstra have a reasonable opportunity to recover the cost of supplying fixed line services, and that this cost be shared fairly among all users of the network. Provided that these basic requirements are satisfied, there can be some flexibility in determining price relativities and final prices to recover the revenue requirement.</p> <p>Some flexibility is likely to be desirable, because an unduly rigid approach may result in significant changes to price relativities.</p>
31	If a more flexible approach to setting individual prices is adopted, what principles should be followed to ensure prices are not set in an arbitrary way?	<p>The key constraint on determination of prices must be the Fixed Principles. As noted above, these principles require that Telstra have a reasonable opportunity to recover the cost of supplying fixed line services, and that this cost be shared fairly among all users of the network.</p> <p>Adhering to the Fixed Principles will avoid prices being set in an arbitrary way.</p>

Item	ACCC Question	Response
32	If a more flexible approach to setting individual prices is adopted, what are some principles that could be adopted to guide the setting of prices?	<p>As previously noted, a basic principle for setting the price for an individual service is that the price should be between avoidable and stand-alone cost. This principle is applied in determining prices for individual services in other industries where a building block model is applied to determine the revenue requirement (e.g. this principle applies under the NER and NGR).</p> <p>As discussed below, a further relevant consideration in the telecommunications industry may be stability in price relativities.</p>
33	Are price stability and stable price relativities objectives that should be pursued? Please give reasons for this view.	<p>Telstra considers that it is in the LTIE that stability in price relativities be maintained where possible (within the constraints of the Fixed Principles, as discussed above). It is for this reason that Telstra has proposed to maintain existing price relativities and apply a small uniform price increase across all services.</p> <p>Price stability should only be pursued to the extent possible where it is compatible with the requirements of the Fixed Principles which have already been determined to promote the LTIE.</p>
34	Are there any issues of inconsistency between Telstra's proposed fully allocated cost allocation framework and the alternative approach to individual price setting?	<p>Use of a fully allocated cost framework can be entirely compatible with allowing some flexibility in price setting.</p> <p>As noted above, any flexibility in price setting must be constrained by the requirements of the Fixed Principles, including the requirement that that costs be shared fairly among all users of the network. If flexibility in price setting is so constrained, then there is no inconsistency between use of a fully allocated cost allocation framework and allowing some flexibility in price setting.</p> <p>In other regulated industries such as electricity and gas, use of fully allocated cost frameworks does not prevent flexibility in price setting.</p> <p>In this context, a fully allocated cost framework must be used to allocate network costs between the declared fixed line services and other uses of the network. However once this allocation has occurred, Telstra considers that there may be some flexibility in determining appropriate price relativities, as between the declared services.</p>
35	How could estimates of avoidable cost and stand alone cost be determined for Telstra's declared services?	<p>Telstra does not consider it necessary to estimate avoidable and stand alone costs.</p> <p>Telstra proposes that existing price relativities maintained, and that all prices be adjusted to the extent necessary to ensure cost recovery.</p>

Item	ACCC Question	Response
Price structures		
36	Whether the current ULLS price structure (an averaged Bands 1-3 price and a separate Band 4 price) should be maintained for the next regulatory period. If you consider that a different price structure should be adopted for the FAD, please provide details of your proposed alternative price structure. Please give reasons for your answer, including by reference to the LTIE.	Refer to section 18.1.
37	Should the current approach for estimating geographically differentiated costs of supplying the ULLS be maintained? Please give reasons, including by reference to the LTIE.	<p>In preparing its fully allocated cost model, Telstra has reviewed the method for allocating costs between ULLS bands.</p> <p>Telstra has proposed some adjustments to the method for allocating costs of certain asset classes (in particular the ducts and pipes, and copper cables asset classes) between geographic areas. These adjustments have been made in order to better reflect the geographic variation in the costs for these asset classes.</p> <p>These adjustments are explained in Telstra's CAF Framework and Model Guide (July 2014), sections 5.1.1 and 5.1.2.<sup>148</sup></p> <p>However, as explained in section 18.1, in the interests of real price stability, Telstra considers that existing price relativities (as between geographic areas) should be maintained for ULLS</p>
38	If you consider that a different method of estimating the geographically differentiated costs of supplying the ULLS should be used, please provide details of your proposed approach and an explanation of why it would be more appropriate, including by reference to the LTIE.	Refer to Telstra's CAF Framework and Model Guide (July 2014), sections 5.1.1 and 5.1.2.
39	Are the geographical cost relativities for Bands 1 to 4 likely to have changed since the 2011 FAD inquiry? If yes, please provide evidence to support your answer and propose a method for the ACCC to obtain more up-to-date information on the relative costs of supplying the ULLS. If no, please give reasons for your answer.	Refer to Telstra's CAF Framework and Model Guide (July 2014), sections 5.1.1 and 5.1.2.

<sup>148</sup> Telstra, Cost Allocation Framework for the ACCC Fixed Line Services Model: Framework and Model Guide (Version 1), July 2014 (provided to the ACCC on 4 July 2014).

Item	ACCC Question	Response
40	Whether the ACCC should maintain the current national average price structure or adopt a different price structure for FOAS and FTAS. If you consider a different price structure should be adopted, you should give details of your proposed structure. Please give reasons for your answer, including by reference to the LTIE.	Refer to section 18.2.
41	Do you consider that there are significant geographic cost differentials in supplying FOAS and FTAS? Please give evidence to support your answer.	Refer to section 18.2.
42	What information is available on any significant geographic cost differences in supplying FOAS and FTAS? Please comment on the reliability and any limitations of this data.	Refer to section 18.2.
43	What information is available on the fixed and variable costs of supplying FOAS and FTAS? Please comment on the reliability and any limitations of this data.	Refer to section 18.2.
44	Have you negotiated disaggregated FOAS or FTAS prices with any other parties? If so, please provide details of the other party and the negotiated charges. If negotiations have been unsuccessful, please give details about the negotiations and your view of the reasons for the failure to agree.	As discussed in section 18.2, it is not sufficient for the regulated price on a nationally averaged basis, on the assumption that de-averaged rates can be negotiated.  This is because access seekers will always be able to take the regulated rate where this is below the de-averaged cost of supply (i.e. in provincial and rural areas).
45	Are there other issues, such as non-dominant network or the rollout of the NBN, which the ACCC should take into account in setting regulated terms and conditions for FOAS and FTAS? Please give reasons for your answer, including by reference to the LTIE.	Refer to section 18.2.
46	Whether the ACCC should maintain a two-part pricing structure for the wholesale ADSL service. Please describe how a two-part pricing structure should be implemented (for example, using port and AGVC charges) and give reasons for your answer, including by reference to the LTIE.	Refer to section 18.3

Item	ACCC Question	Response
47	If a two-part pricing structure is retained, how should the ACCC determine the appropriate proportion of costs to be recovered from the fixed and usage charges? What factors should the ACCC take into account and what information is available to assist the ACCC in determining this proportion? Please give reasons and provide evidence where available.	<p>Refer to section 18.3.</p> <p>Telstra considers that the current relativity between fixed and usage charges should be retained.</p> <p>As noted above, the two-part price structure provides important signals to network users regarding the cost of capacity usage. If the relativity between access and usage charges were changed, this would alter these signals and potentially lead to inefficient use of existing network capacity.</p> <p>Stability in price relativities is particularly important in relation to the WDSL service, given the potential for a change in relativities to significantly alter network usage patterns.</p>
48	Should the ACCC maintain the approach of setting an AGVC charge on a per Mbps basis? Does the previous methodology remain appropriate? Should AGVC charges vary over the FAD to reflect changes in forecast traffic? Please give reasons for your answer and provide details if you propose an alternative approach.	<p>AGVC charges should continue to be set on a per Mbps basis, given that usage (on a per Mbps basis) is a key driver of the cost of supplying this service.</p> <p>As for all services, Telstra proposes to apply a one-off uniform price increase, rather than varying prices over the term of the FAD.</p>
49	Whether the ACCC should continue to set geographically differentiated port charges for the wholesale ADSL service? If so, how should the prices be determined? Please give reasons, including by reference to the LTIE, and any evidence that is available to support your view.	<p>Telstra continues to support the use of zones for WDSL pricing. This approach reflects the reality that supplying this service to Zones 2 and 3 is costlier due, for example, to lower population densities and longer distances.</p> <p>As noted in section 18.3, Telstra considers that the current inter-zone price relativity should be maintained, in the interests of real price stability.</p>
50	What information is available on cost differences in supplying ADSL services in different areas? Are there any limitations on this data?	<p>Refer to section 18.3.</p> <p>Telstra notes that the current inter-zone relativity between port charges may not precisely reflect the relative costs of providing WDSL in different geographic areas.</p> <p>However, in the interests of real price stability, Telstra considers that existing price relativities should be maintained for WDSL.</p>
51	Does the current zone structure represent a reasonable allocation of ESAs into high and low cost areas for the purpose of setting geographically-differentiated prices for the wholesale ADSL service? Please give reasons for your answer and provide details of any alternative zoning approach that you consider would be preferable.	Refer to response to question 50 above.



Item	ACCC Question	Response
52	Are the cost relativities used in the 2013 FAD still an appropriate basis for determining geographically differentiated prices? Please give reasons and any supporting evidence.	Refer to response to question 50 above.
53	Are there alternative geographic price structure options that the ACCC should consider? Please give details of any proposed alternatives and your reasons for proposing them.	Telstra continues to support the use of existing zones for WDSL pricing. Therefore Telstra does not propose an alternative approach.
<b>Impacts of the National Broadband Network</b>		
54	The implications of the NBN rollout for the pricing of declared fixed line services.	Refer to section 3.
55	The implications for efficient use of and efficient investment in infrastructure arising from the various options for the impacts of the NBN.	<p>Telstra proposes an approach to accounting for NBN rollout which is consistent with the Fixed Principles, and which will therefore promote efficient investment in and use of infrastructure. This approach is set out in section 3.</p> <p>Under Telstra's proposed approach, NBN rollout is fully accounted for, to the extent that it impacts on the cost of supplying the fixed line services, or demand for those services. This approach is designed to ensure that Telstra has a reasonable opportunity to recover the cost of supplying fixed line services, and this cost is shared fairly among all network users, as required by the Fixed Principles.</p>
56	The implications for competition arising from the various options for accounting for the impacts of the NBN.	As Telstra's approach to accounting for NBN rollout is consistent with the Fixed Principles, it will ensure that Telstra has a reasonable opportunity to recover the cost of supplying fixed line services, and this cost is shared fairly among all network users. Therefore Telstra's approach will promote efficient competition.
57	What are the implications of accounting for the arrangements between Telstra and NBN Co based on the use of the underlying assets? What are the implications of accounting for the arrangements based on the value of payments from NBN Co?	<p>Refer to section 3, and particularly section 3.3.1.</p> <p>Where it is expected that NBN Co will be using certain fixed line network assets over the next five years, this expected use will be accounted for under Telstra's proposed approach. Specifically, where NBN is expected to use space in Telstra facilities, this will be accounted for through the allocation factors for those facilities. Alternatively, where assets are expected to be transferred to NBN Co, this will be accounted for through asset disposals.</p> <p>However, the value of any payments made by NBN Co for use of these assets is irrelevant to determining the cost of supplying fixed line services. Accordingly, the value of these</p>



Item	ACCC Question	Response
		<p>payments can have no impact on the determination of prices under the Fixed Principles.</p> <p>In this regard, NBN Co's expected use of the fixed line network assets will be treated no differently to use by any other third party. Where Telstra allows other third parties to use its infrastructure, this use is accounted for when allocating costs, but the value of payments made by those third parties is irrelevant.</p>
58	What other options are there for quantifying the impact of the arrangements between Telstra and NBN Co?	<p>Telstra's proposed approach to accounting for the impact of NBN rollout is outlined in section 3. The proposed approach to accounting for impacts on specific elements of the building block model (e.g. expenditure forecasts, asset disposals and allocation rules) is set out in Parts C, D and E.</p> <p>Under Telstra's proposed approach, NBN rollout is fully accounted for, to the extent that it impacts on the cost of supplying the fixed line services or demand for those services. This approach is designed to ensure that Telstra has a reasonable opportunity to recover the cost of supplying fixed line services, and this cost is shared fairly among all network users, as required by the Fixed Principles.</p>
59	How should the migration payments from NBN Co to Telstra be viewed for the purposes of the next FADs?	<p>Refer to section 3.3.1.</p> <p>The value of migration payments is irrelevant to determining the cost of supplying fixed line services. Accordingly, the value of these payments can have no impact on the determination of prices under the Fixed Principles.</p>
60	Can the payments from NBN Co be conceptualised as either non-regulated revenue or regulated revenue?	<p>Refer to section 3.3.1.</p> <p>Payments from NBN Co are part of a commercial agreement between Telstra and NBN Co covering a range of matters. There is no sense in which these payments could be characterised as 'regulated revenue'. They are payments made under a bilateral commercial agreement.</p> <p>The amount of these payments does not reflect a cost of supplying the fixed line services, nor does it reflect the amount by which the cost of supply changes at the time of migration. According, the amount of these payments can have no impact on the determination of regulated prices.</p> <p>There is no reason why these payments should be viewed any differently to other commercially agreed payments received by Telstra.</p>

Item	ACCC Question	Response
Other pricing issues		
61	Please comment on the identified potential over-compensation that arises from the end-of-year timing assumption for the receipt of capital-related revenue.	<p>Telstra does not consider there to be any reason to expect that it would be systematically over-compensated due to the application of the half-WACC adjustment. The half-WACC adjustment is commonly applied in building block models and reflects a reasonable assumption that capital expenditure will be incurred (on average) mid-way through the year.</p> <p>The issue that arose in the context of the NBN Co SAU (referred to in the Discussion Paper) was due to the particular design of the NBN Co Long Term Revenue Constrain Methodology. The same issue does not arise here.</p>
62	Do you consider that the half-WACC adjustment to capital expenditure is appropriate in the context of the declared fixed line services? In particular, do you consider it appropriate to recognise capital expenditure as a mid-year cash flow while recognising operating expenditure and revenue as end-of-year cash flows? Please provide reasons.	Refer to response to question 61 above. For reasons above, Telstra considers that the half-WACC adjustment remains appropriate.
63	Whether the approach to estimating the cost of capital in the 2011 and 2013 FADs in the FLSM is still appropriate.	Refer to section 10.
64	Whether the approach to calculating tax liabilities in the 2011 and 2013 FADs in the FLSM is still appropriate.	Refer to section 11.
65	Please comment on the described potential approach to indexation in the FLSM. In particular, please comment on the alignment of the methodologies used to convert expenditure inputs and price outputs, and the use of the CPI for all conversions.	<p>Telstra agrees that it is appropriate to align methodologies for conversion of expenditure inputs.</p> <p>However Telstra notes that CPI may not be an appropriate escalator for all cost inputs. As explained in the Forecast Model Documentation (Appendix 4), different cost escalators have been used for certain cost items in the Forecast Model (e.g. labour costs).</p>
66	Are the approaches described in section 8.5 appropriate and practical ways to account for the arrangements between Telstra and NBN Co in the FLSM? What other practical or implementation issues are likely to arise in accounting for these arrangements?	Telstra's proposed approach to accounting for the impact of NBN rollout is outlined in section 3. The proposed approach to accounting for impacts on specific elements of the building block model (e.g. expenditure forecasts, asset disposals and allocation rules) is set out in Parts C, D and E.

Item	ACCC Question	Response
Term of the final access determinations		
67	What considerations are relevant to determining the length of the next regulatory period?	Refer to section 19.
68	Should the ACCC maintain a regulatory term of 3 years or should an alternative regulatory term be adopted? What factors should the ACCC consider when deciding on the regulatory term?	Refer to section 19.
69	Whether the reliability of out-year forecasts (i.e. those for 2016-17 to 2018-19) is a relevant factor to be considered in setting the term of the next regulatory period.	Refer to section 19.

## Appendix 2: Expert report of Mr Jeff Balchin

Provided as a separate document.

## Appendix 3: Forecast Model

Provided as a separate document.

## Appendix 4: Forecast model documentation

Provided as a separate document.

## Appendix 5: Expert report of Mr Mike Smart

Provided as a separate document.