

## NBN – Comments on ARPU and the ICRA

**The NBN is expensive. To get initial prices to match current wholesale prices, wholesale average revenue per connection (WARPU) will have to increase at 6% p.a. for thirty years. Even then, the accumulated losses relative to allowed revenues (the ICRA) will be over \$6 billion by 2040.**

NBN Co. stresses that unit prices of speed (AVC) tiers and usage (CVCs) will fall in real or even nominal terms: *“These decreases will benefit Australians in terms of affordability of NBN-based voice and broadband services”* (NBN Co. letter to Optus dated 14 January 2013). But expensiveness or affordability is not judged by unit prices but by monthly costs per household. This is what the industry calls ARPU – Average Revenue Per User – and it increases remorselessly with the NBN. This occurs because unit prices are not cut as quickly as usage grows in order to secure the revenues needed to recover the costs of the network.

### Unit prices and WARPU

NBN Co.’s average revenue per connection in 2012 is only \$11.90 (inferred from the August 2012 corporate plan Exhibit 9-2) because not all connections are active (paid for). However, in Exhibit 8-11 NBN Co. shows fibre ARPU of \$20 in 2012; which seems odd as the lowest cost of an AVC is \$24. With take-up and forced migration from copper to the NBN, the average revenue per connection (WARPU) will converge with NBN Co.’s average revenue per user.

Taking into account movements up speed tiers and, more importantly, increasing data usage, the corporate plan shows WARPU increasing from \$20 to over \$100 pm (nominal dollars, or \$44 in today’s dollars discounted at assumed inflation rate of 3% pa) in 2040. This represents a growth in WARPU of 6% per annum for nearly 30 years. The growth is the result of trying to make wholesale prices affordable today while recovering total costs tomorrow: *“The initial prices were developed in consultation with access seekers so as to enable a smooth transition for end users from legacy networks to the NBN”* (NBN Co. letter to Optus dated 14 January 2013). Current wholesale prices on the NBN and legacy networks are:

**Table 1: Current Wholesale Prices**

	Price per month/user	Comments
NBN for 12/1 AVC	\$26 = \$24 (AVC) + \$20/Mbps (CVC)	NBN case studies suggest about \$26 per line
Wholesale (resold) ADSL	= \$24.56 (port) + \$36.08/Mbps (AGVC)	Draft ACCC decision for Zone 1 ( metro areas) to June 2014
Unbundled local loop (ULLS)	\$16.21	ACCC decision for Bands 1-2 to June 2014
Line sharing (LSS) plus wholesale line rental	\$24.64 = \$1.80 (LSS) + \$22.84 (WLR) + calls	ACCC decision to June 2014. Combined with local call resale (8.9c/call)

## The Initial Cost Recovery Account (ICRA)

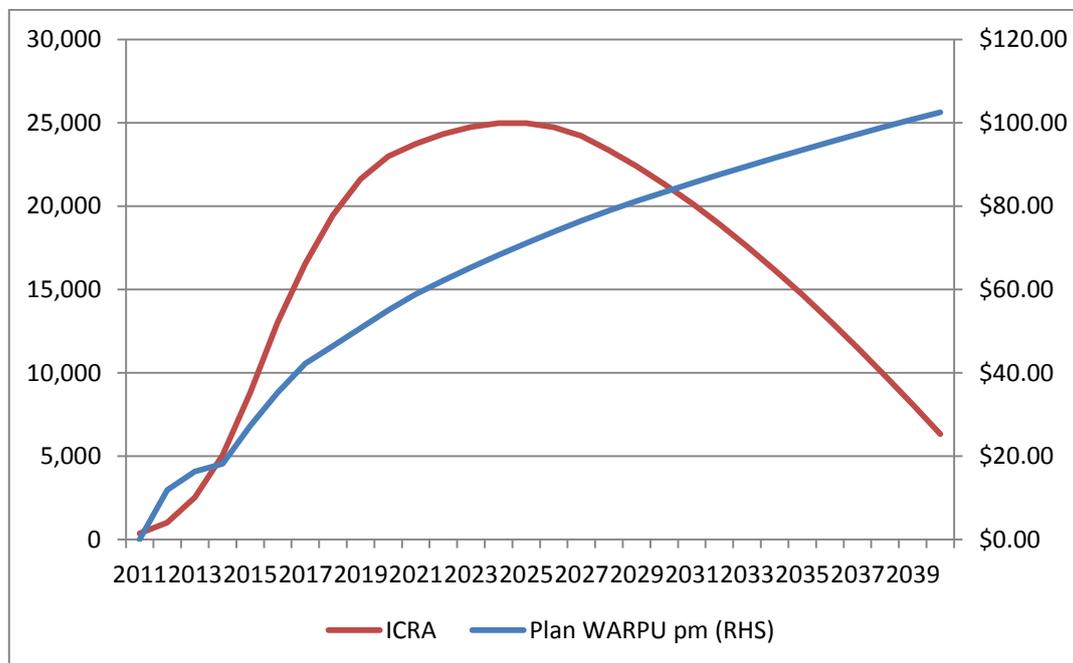
Keeping initial NBN prices down to current wholesale rates leads to revenues lower than allowed by the ACCC's new approach to regulating access prices; which allows revenues to recover a return on assets (at WACC, the weighted average cost of capital) plus depreciation, operating costs and tax.

NBN Co. defines the WACC for each financial year by reference to the risk free rate plus a mark-up of 350 basis points. The risk free rate is the prevailing mean annualised yield on Commonwealth Government Securities with a maturity of 10 years (p122, NBN SAU, September 2012). The current risk free rate is around 3.5%; which is low historically. From 1969 until 2013, the yield on 10 year Australia Government Bonds averaged 7.9% reaching a high of 16.4% in May 1982 and a record low of 2.7% in July of 2012<sup>1</sup>. For this commentary, we assume a risk free rate of 4% so that means the WACC is 7.5%.

The difference between actual revenues and allowed revenues (the ABBRR or annual building block revenue requirement) in the early years is accumulated with interest at the prevailing WACC (p128, NBN SAU, September 2012) in the Initial Cost Recovery Account (ICRA). Once the ICRA is extinguished, it is no longer used (p129, NBN SAU).

Even though WARPU increases at 6% pa, actual revenues do not catch-up with allowed revenues (i.e. the ICRA is not extinguished) before 2040. NBN Co. told the ACCC in February 2013 that the ICRA is unlikely to be extinguished before 2040; as confirmed in the chart below.

**Exhibit 1: NBN ARPU and unfinished cost recovery**



NBN Co. actually uses the ICRA position to reassure Optus about pricing: *“After all, what this (corporate plan) scenario implies is that for 30 years access seekers have been able to purchase NBN Co.’s services for supply to end users at prices that have not yet enabled NBN Co. to recover its*

<sup>1</sup> <http://www.tradingeconomics.com/australia/government-bond-yield>

*prudently incurred costs of supply (inclusive of an appropriate return on capital)*” (NBN Co. letter to Optus dated 14 January 2013).

Normally, one would expect losses in the early years of an investment and still expect to make a return on the investment. It is not normal to recover these losses and accumulated interest.

### **Subsidy alternative to ICRA**

There are two precedents for the ACCC allowing “loss capitalisation” - a Hunter Valley Rail Network Undertaking (in 2010) and for access to the Central West Pipeline (in 2000)<sup>2</sup>.

The ACCC cautions that this approach intends that:

*“the regulated firm will only have a temporary period to earn a return on a shortfall or loss, and that the period will end once full economic cost recovery begins.....Loss capitalisation may not, of course, be the only method of encouraging investment in these circumstances, and the particular form of its implementation may require scrutiny.....loss capitalisation is a relatively new concept in the regulation of access pricing, and consequently a conservative approach should be taken at these early stages to mitigate the risk of regulatory uncertainty in later decision”*<sup>3</sup> (emphasis added).

With NBN Co. conceding that the ICRA will not be extinguished by 2040, the notion of “temporary” is being stretched. An alternative approach the ACCC may have had in mind is subsidies which:

*“include grants made to public enterprises to offset recurring losses, which are generated by a government policy<sup>4</sup> to maintain prices at a level that does not cover the cost of production”*<sup>5</sup>

That is,

*“If NBN Co fails to generate sufficient revenue and incurs recurring operating losses, it could require a government subsidy in order to remain a going concern. A subsidy is treated as an expense in the government’s operating statement. NBN Co would treat the subsidies as income in its financial accounts....If payments to NBN Co were to qualify as, or to be accounted for as a subsidy expense, it would represent an increase in expenses in the operating statement. This would increase a budget deficit or reduce a budget surplus (as measured by the fiscal balance)”*<sup>6</sup>

On the figures in the corporate plan, if the economic losses were covered this way, it would add \$19.3 billion to the Commonwealth Budget in the period to 2021.

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<sup>2</sup> Referenced at pp128-129 of the NBN SAU.

<sup>3</sup> PP80-81 Australian Competition and Consumer Commission Position Paper in relation to the Australian Rail Track Corporation’s proposed Hunter Valley Rail Network Access Undertaking 21 December 2010

<sup>4</sup> It is policy: “*The Government expects NBN Co.’s approach to pricing will recognise the importance of maintaining affordability to drive take-up rates*”, from p10, Statement of Expectations, 17 December 2010.

<sup>5</sup> P172, Australian Bureau of Statistics, Australian System of Government Finance Statistics, Concepts, Sources and Methods , cat. no. 51514.0

<sup>6</sup> P11, The national broadband network and the federal government budget statements – 13 January 2012 [http://parlinfo.aph.gov.au/parlInfo/download/library/prspub/1345475/upload\\_binary/1345475.pdf;fileType=application/pdf#search=%222010s%20background%20note%20%28parliamentary%20library,%20australia%29%22](http://parlinfo.aph.gov.au/parlInfo/download/library/prspub/1345475/upload_binary/1345475.pdf;fileType=application/pdf#search=%222010s%20background%20note%20%28parliamentary%20library,%20australia%29%22)

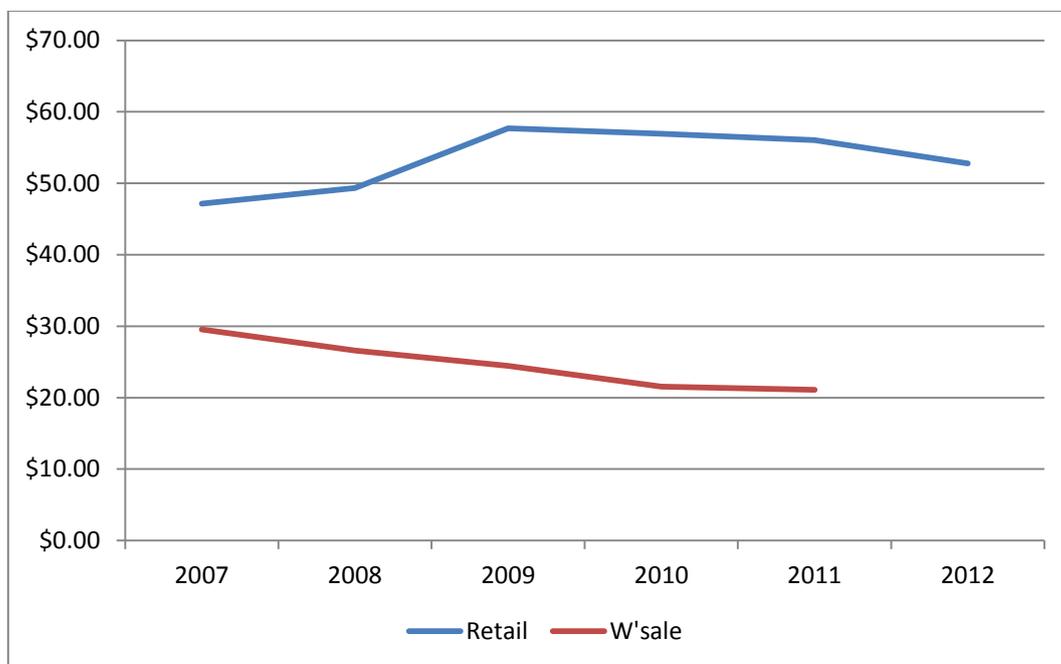
## Flow through of WARPU to retail ARPU

The real problem is that the size of the investment in the current NBN leads to very large costs that need to be recovered and which will – when passed through to retail prices – deter adoption and use of the NBN; defeating the purpose for building it. The rapid increase in WARPU to over \$100 pm (\$44 at today's dollars) will flow through to steady increases in retail ARPU; contrary to global and domestic trends:

*“Globally, broadband ARPU has continued to decline across all broadband platforms over the past few years. The trend is expected to endure as the majority of operators are trying to offer lower prices to capture a larger market share. In some countries like Japan and South Korea, increasing competition from LTE services is expected to pressure fixed broadband operators to offer lower service pricing in the long-term” (ABI Research reports, 2 Feb 2013<sup>7</sup>)*

Domestically, the recent past is depicted below for Telstra (sourced from Telstra Annual Reports).

**Exhibit 2: Telstra Fixed Broadband ARPU**



The ratio of the retail to wholesale ARPU for Telstra averages 2.38. As a cross-check, we can also look at the NBN retail plans reported in Exhibit 7-8 (for 12/1 Mbps) and Exhibit 7-9 (for 25/5 Mbps) at 30GB per month and compare them estimated wholesale costs (Table 3 in my submission to the ACCC on the NBN SAU (<http://www.deridder.com.au/files/NBN%20traffic%20pricing-FINAL.pdf> )):

<sup>7</sup> <http://www.abiresearch.com/press/global-broadband-service-revenue-to-reach-251-bill>

**Table 2: NBN Retail Prices and NBN Costs at 30GB pm**

	12/1	25/5
Retail NBN plans at 30GB per month	\$62	\$67
	\$50	\$60
	\$50	\$60
	\$50	\$55
	\$40	
Average	\$50.40	\$60.50
NBN charges	\$25.90	\$31.76
Ratio price/cost	1.95	1.9

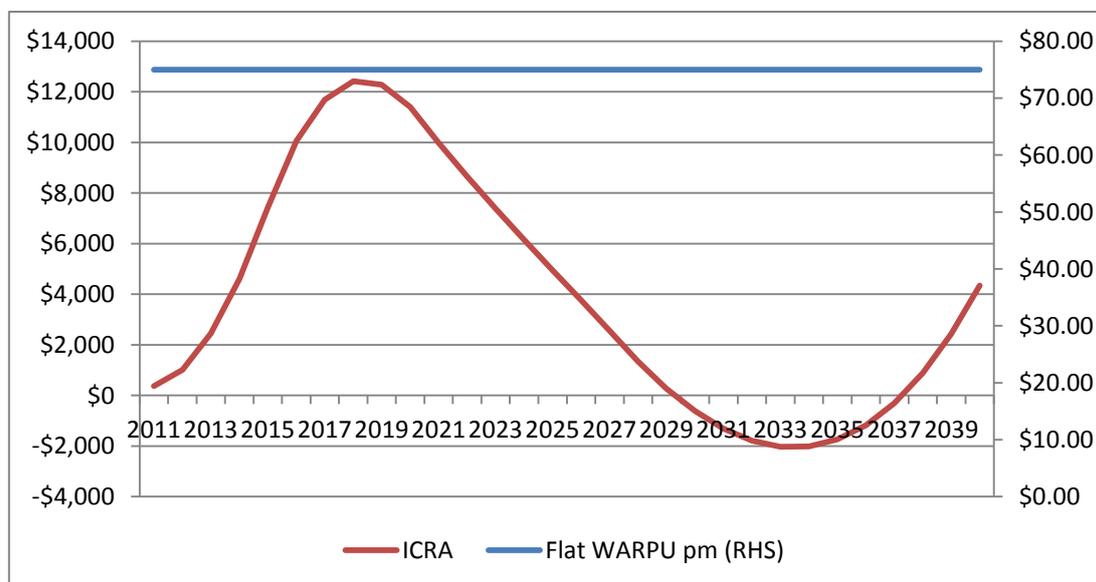
This suggests that retail ARPU will be roughly double NBN WARPU – unless retail service providers reduce their current margins and/or costs.

**What is the real cost of using the NBN?**

As noted above, matching initial NBN prices to current wholesale prices and allowing for later recovery of costs through the ICRA has the positive effect of allowing a smoother migration but might also be thought to disguise the real cost of the NBN. One way of looking at this is to ask what the WARPU would have to be to recover costs. Two scenarios are shown below.

The first scenario suggests that the initial NBN wholesale revenue per connection (WARPU) is less than half of what it needs to be to recover costs on a flat WARPU basis. At \$75 pm, the WARPU will extinguish the ICRA by 2030; as shown in Exhibit 3 below.

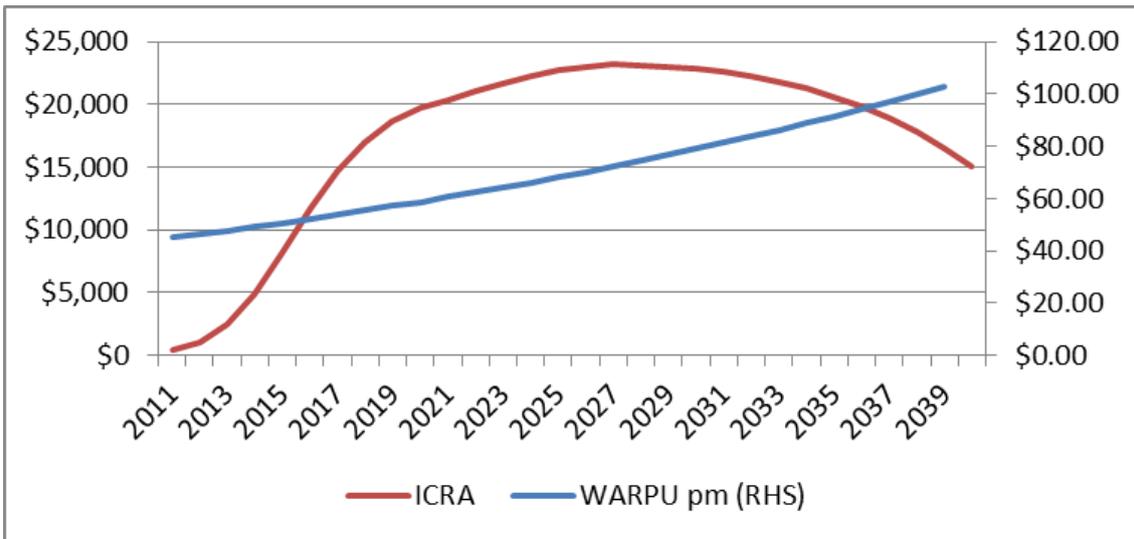
**Exhibit 3: Flat WARPU**



As noted earlier, once the ICRA reaches zero, it plays no further role in regulated pricing.

In the second scenario, WARPU starts at \$45 in 2012 and increases at 3% p.a. (approximately the inflation rate); which gives the same end point for ARPU and similar revenues to the corporate plan.

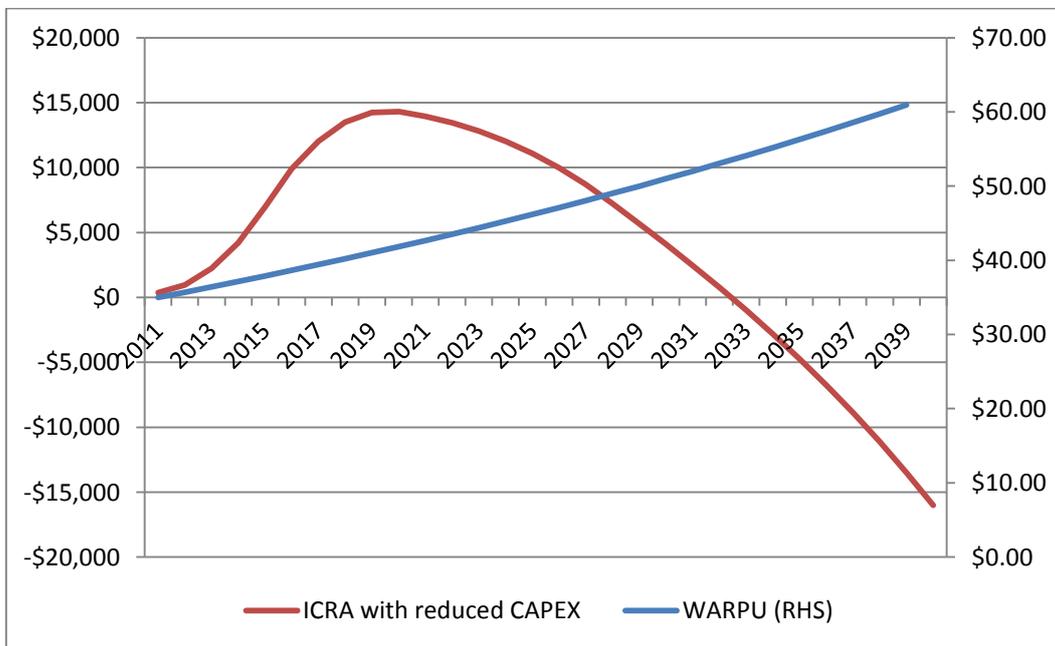
**Exhibit 4: WARPU increases at inflation rate**



**Cut the cost of the NBN**

The real problem is the cost of the NBN. The rise in WARPU is driven by the need to recover very large investment costs. WARPU will grow even faster than 6% pa if costs blow out as many expect. But, what if the NBN could be built at half the cost in the corporate plan? Then, starting at \$35 and increasing WARPU at only 2% pa, the ICRA could be extinguished by 2033.

**Exhibit 5: A cheaper NBN**



**Conclusion**

Under current NBN plans, world class speed and usage will come at a much higher consumer cost than elsewhere and this will greatly reduce adoption – even in a monopoly situation. Studies suggest

many will either turn off or take much reduced services. NBN Co. reported to the ACCC in February that increasing prices faster than in the corporate plan would lead to reduced revenues. This also suggests that if WARPU did not have to increase as fast as planned, demand would be stimulated. We need affordable monthly bills (not unit prices) both today and tomorrow.

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March 2013