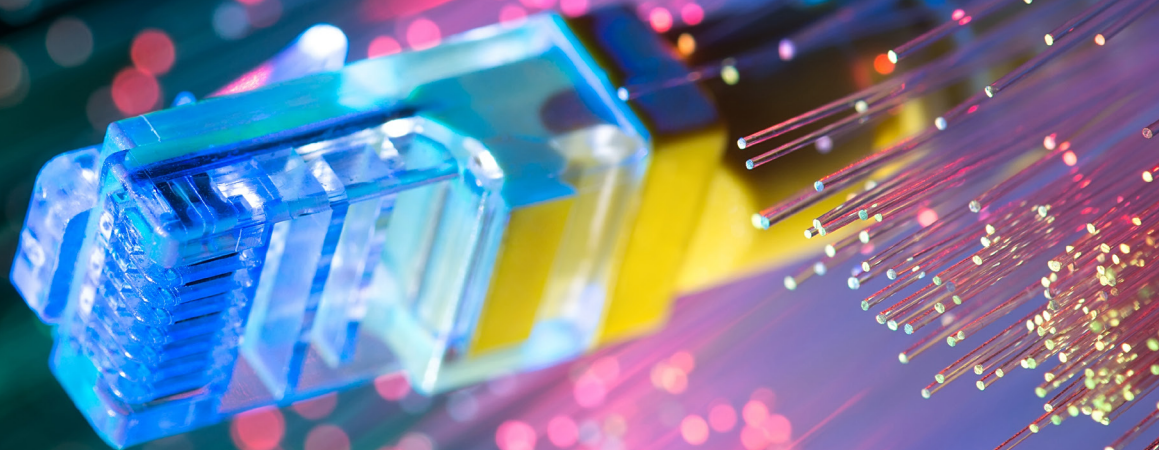


**LABOR'S PLAN**

**TO BUILD THE  
NATIONAL BROADBAND  
NETWORK AUSTRALIA  
NEEDS FOR THE JOBS  
OF THE FUTURE**



**Labor**



# LABOR BUILDS FOR THE FUTURE



Fast broadband creates jobs.

Labor is the nation building party. From the Snowy Mountains Scheme to the National Broadband Network, Labor builds the infrastructure for the jobs of the future.

The original Labor NBN would have delivered optic fibre to 93 per cent of homes and businesses, providing speeds of up to one gigabit per second on a network easily scalable to much higher speeds in the future. It would have provided our nation's businesses, entrepreneurs, students and scientists with the tools they needed to compete in the global economy of the 21st century.

In 2013, Malcolm Turnbull scrapped Labor's world class fibre-to-the-premises NBN. Instead the Liberals are building a slower, second-rate copper NBN that will leave Australia behind and hamstringing our economy into the future.

In the last three years **Australia has plummeted from 30th in the world for internet speeds to 60th**. We are now behind most of Europe. We are behind most of Asia. We are behind the United States and Canada and New Zealand. We are even behind Romania, Russia, Poland and Slovakia.

Malcolm Turnbull's second-rate copper NBN is holding Australia back. Our competitiveness as a nation will suffer as the Liberals continue to roll out last century's technology, and opportunities for Australian enterprise and innovation will be lost to overseas markets - and the jobs will follow.

You can't have an innovation boom while you are still buffering.

We must get our broadband infrastructure right to be competitive in the region and globally. Our neighbours in the region - Japan, South Korea, Singapore, even New Zealand - are all rolling out fibre networks.

Labor will ensure that Australia has the digital infrastructure we need to create the jobs of the future - right here in Australia.

# MALCOLM TURNBULL'S RECORD OF NBN FAILURE

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Over the last three years Australia has witnessed a series of spectacular failures from Mr Turnbull's mismanagement of this critical infrastructure project:

- Mr Turnbull promised he would build his second-rate copper NBN for \$29.5 billion. This cost has now nearly doubled to up to \$56 billion.
- He promised that all Australians would have access to the NBN in three years - by 2016. This timeframe has more than doubled to 2020, and most likely will not happen until June 2022.
- The cost of patching up the old copper network has blown out by more than 1,000 per cent, from \$55 million in 2013 to more than \$640 million.
- The cost of Malcolm Turnbull's second-rate copper NBN has almost tripled, from \$600 a home in 2013 to \$1,600 a home.
- Not a single paying customer has been connected to Malcolm Turnbull's PayTV network. In 2013 he said 2.61 million homes would have access this year.
- The financial return to taxpayers on their \$29.5 billion investment has crashed from 7.1 per cent to as low as 2.7 per cent.

Where Malcolm Turnbull has managed to switch on his second-rate copper NBN, it has been plagued with problems, including slow speeds, long connection delays and disrupted services.

Mr Turnbull's incompetence on the NBN has had severe consequences for our nation. Currently, less than 20 per cent of the country can access the NBN, and Australia has slipped from 30th in the world for internet speeds to 60th.

**WE MUST DO BETTER**

# LABOR'S PLAN

The most important piece of infrastructure for our 21st century economy is a first-rate, fibre NBN.

Due to the mess Malcolm Turnbull has made of this critical infrastructure project, Labor's original plan for the NBN can no longer be achieved in one stage. The Liberals have sunk \$15 billion into the NBN in the last three years, and much of the initial build is under contract.

A Shorten Labor Government will deal with Malcolm Turnbull's mess in two ways.

First, we will scale up the rollout of fibre-to-the-premises and phase out the rollout of fibre-to-the-node. Construction of fibre-to-the-node will cease when the current pipeline of construction work is completed and design and construction of fibre-to-the-premises is scaled back up.

This will deliver fibre-to-the-premises to up to two million homes and businesses during the initial build that would otherwise get Malcolm Turnbull's second-rate copper version.

Second, a Shorten Labor Government will commission Infrastructure Australia, with input from relevant experts, to manage the development of a plan that outlines how and when the parts of Australia left with Mr Turnbull's second-rate NBN should be transitioned to fibre-to-the-premises. This plan will be commissioned in the first term of a Shorten Labor Government.

The revised Definitive Agreements with Telstra and the Optus HFC Agreement do not require renegotiation to implement Labor's plan.

A Shorten Labor Government will complete the initial rollout of the NBN by 30 June 2022 - the same time the Liberals' second-rate NBN is likely to be complete.

Labor will cap the total funding cost of the initial NBN rollout at \$57 billion. This cap will have priority over the number of additional homes and businesses to get fibre-to-the-premises in the initial rollout. NBN Co's independent board will monitor and ensure compliance with this funding cap on an annual basis as part of its corporate planning processes.

Under Labor, the minimum taxpayer return from the NBN will increase to 3.9 per cent.

Metric	LABOR	LIBERALS
Cost (Total funding)	\$49 to \$57 billion	\$46 to \$56 billion
Forecast completion (100 per cent of premises)	June 2022	Forecast: December 2020 Likely: June 2022
Homes and businesses with fibre-to-the-premises	~ 39 per cent	~ 20 per cent
Base rate of return (Internal Rate of Return to 2040)	3.9 per cent	2.7 per cent

# BUILDING THE JOBS OF THE FUTURE

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Labor is the nation building party. From the Snowy Mountains Scheme to the National Broadband Network, Labor builds the infrastructure and the jobs of the future.

The National Broadband Network (NBN) is signature Labor policy. It is the biggest, most important public infrastructure project in Australian history. Universal, fast, reliable and affordable broadband is the platform on which the jobs of the future will be built.

The NBN will be vital to how we provide health services, deliver world class education and build a strong and growing economy. The NBN will ensure Australia's continued prosperity in the 21st century as we transition from the mining boom and export our ideas and innovations to the world.

The original Labor NBN would have delivered optic fibre to 93 per cent of homes and businesses, providing speeds of up to one gigabit per second, a network easily scalable to much higher speeds in the future. The original NBN would have provided our nation's businesses, entrepreneurs, students and scientists with the tools they needed to compete in the global economy of the 21st century.

In 2013, Mr Turnbull scrapped Labor's world class fibre-to-the-premises NBN. Instead the Liberals are building a slower second-rate copper NBN that will leave Australia behind and hamstringing our economy into the future.

**Broadband creates jobs.** There is a direct link between broadband penetration and gross domestic product (GDP) growth. The World Bank has found that a 10 percentage point increase in fixed broadband penetration increases GDP growth by 1.21 per cent in developed economies.<sup>1</sup> By 2020, Deloitte Access Economics forecasts that Australia's digital economy will be worth \$139 billion – 7.3 per cent of GDP.<sup>2</sup>

Broadband is critical to existing industries and businesses. Further, the jobs to be created over the next decade and beyond will be in companies that don't exist today. The Australian technology startup sector has the potential to contribute 540,000 new jobs in the next two decades. Policies must be in place to retain and help grow as many of these companies as possible. Labor has already announced a [range of policies](#) to do this. The next stage of this is ensuring **we get our broadband infrastructure right**.

“The Internet is creating more jobs than it's eliminating... but there are no guarantees about where those new jobs will be created in the global economy. The world is connected. Capital can flow anywhere, and jobs will follow. Let's not kid ourselves. I hear this directly from my counterparts overseas: our global competitors want to be centers of broadband innovation and job creation. We've got to get our broadband infrastructure right. If we don't, we'll still have job losses here, but the new jobs will increasingly be created in other parts of the world.”

- Federal Communications Commission Chairman Julius Genachowski,  
“Jobs and The Broadband Economy”, Washington DC, 27 September 2011.

In the last three years **Australia has plummeted from 30th in the world for internet speeds to 60th**. We are now behind most of Europe. We are behind most of Asia. We are behind the United States and Canada and New Zealand. We are even behind Romania, Russia, Poland and Slovakia.



## Akamai, State of the internet, Fourth Quarter 2015 (22 March 2016)

Metric	RANK Third Quarter 2013	RANK Fourth Quarter 2015	CHANGE
Average Connection Speed	43	48	-5
Average Peak Connection Speed	30	60	-30
Broadband (>4Mbps) Connectivity	45	56	-11
High Broadband (> 10 Mbps) Connectivity	37	47	-10

Malcolm Turnbull's second-rate copper NBN is holding Australia back. Our competitiveness as a nation will suffer as the Liberals continue to roll out last century's technology, and opportunities for Australian enterprise and innovation will be lost to overseas markets - and the jobs will follow.

"I don't know what [the government] is doing on the other policy fronts but on this they've completely stuffed it... More and more Australians will leave the country looking for jobs and you'll continue to be a resource based economy - the hope of building IT jobs and a digital economy will kind of be more difficult to achieve."

- Malcolm Rodrigues, Founder of My Republic, 11 August 2015.

In our region, Japan, Singapore, South Korea, and New Zealand have all rolled out, or are rolling out, fibre-to-the-premises networks. Even the company that Malcolm Turnbull used in 2013 as justification for his second rate copper NBN<sup>3</sup> - US incumbent AT&T - has now identified that fibre-to-the-node (FTTN) is no longer sufficient:

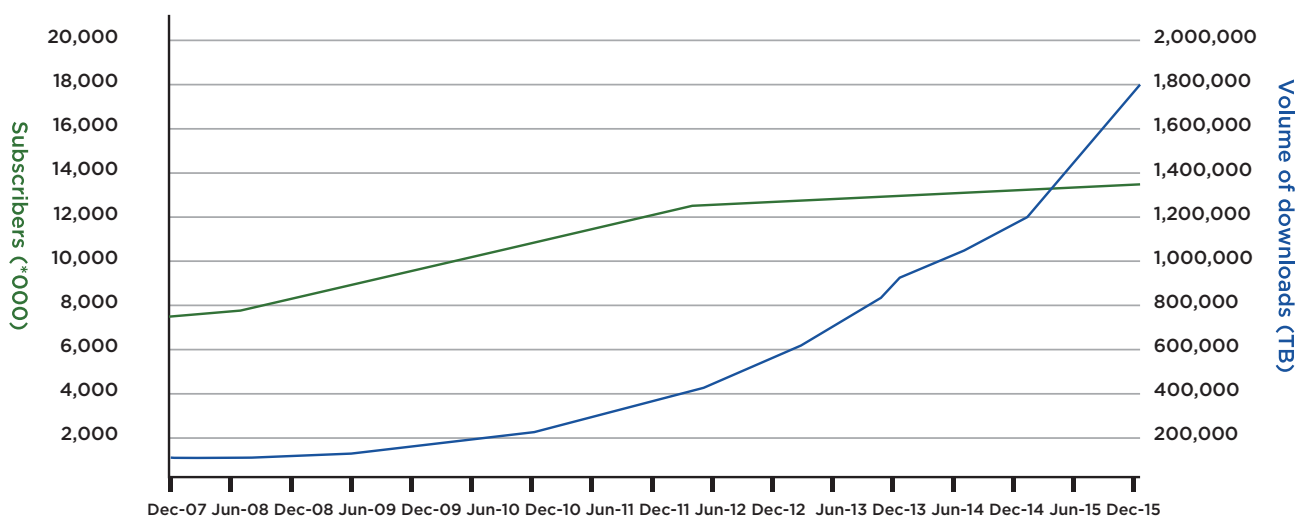
"Demand is growing for faster broadband speeds than AT&T, or anyone else for that matter, can deliver with FTTN, which cannot match the highest speed tiers being offered by cable and other rivals in the marketplace... even the relative speed laggards among AT&T's rivals already offer services of 200 Mbps or higher... these harsh competitive realities were the principal driver of AT&T's 2014 decision to accelerate its long-term upgrade strategy to extend its fiber deployment all the way to the premise."

-AT&T, Letter to the Federal Communications Commission, 21 April 2015<sup>4</sup>

Fast and reliable broadband is not just a job creator. It is also an essential utility, like electricity or water. Australian families and students need it, and Australian businesses rely on it. In the 21st century fast, reliable and affordable broadband has become a fundamental economic and social imperative.

The use of online services by Australians covers almost every aspect of daily life, including running a business and accessing important education and health services. On 6 April 2016, the Australian Bureau of Statistics (ABS) released data showing that internet usage has increased by 400 per cent in the last four years alone, with the proportion of data downloaded over fixed-line networks climbing from 93 to 98 per cent over the same period.

### ABS, Number of subscribers and volume of downloads, 2007 to 2015



Source: ABS 8153.0 - Internet Activity, Australia, December 2015 (6 April 2016).

Broadband speed is a critical enabler of data usage.<sup>5</sup> Demand for higher connection speeds will continue to grow. In the Asia Pacific, CISCO forecasts that average fixed broadband speeds will nearly double over five years, from 28.1 megabits per second in 2015 to 51.3 megabits per second in 2020.<sup>6</sup> Despite this, the Liberals are building a second-rate fibre-to-the-node network that will guarantee speeds of only 25 megabits per second download and 5 megabits per second upload.

In 2014, Mr Turnbull conducted a flawed cost benefit analysis in an attempt to justify his second-rate NBN. In August 2013, he promised that the Liberals would “do a rigorous analysis, we will get Infrastructure Australia to do an independent cost benefit analysis.”<sup>7</sup> Instead, Mr Turnbull appointed a panel which featured a noted and strident critic of the NBN. The staff of the panel also featured numerous Liberal advisors.<sup>8</sup>

Mr Turnbull's cost benefit analysis has since been proved hopelessly wrong.<sup>9</sup> One of its more absurd assumptions was the forecast that the median household will require only 15 megabits per second by 2023.<sup>10</sup> This forecast has been rejected by many in the telecommunications sector, including the Chief Executive Officer of NBN Co, Bill Morrow, who said on 29 August 2014:<sup>11</sup>

“For me, Shery, as an example, I have a 21 year old and a nineteen year old, so two uni students in my house. I have an 11 year old and a seven year old and two adults that are active on the internet, and I don't think that would be enough for us, and not because it's a speed issue but because we're sharing that, so if we are all active in a video intensive area, then that clearly is going to be insufficient to meet our particular needs.”

*-NBN Co CEO Bill Morrow, Radio National, 29 August 2014.*

The NBN will change the way we live and the way we work – just like electricity did. When electricity was rolled out to homes across Australia no one imagined it would be used for things like television or air conditioning or computers. The primary purpose was to light the house. Very quickly it led to electric kettles, toasters, irons, heaters, vacuum cleaners, washing machines, stoves, fridges, dishwashers – the list goes on.

Electricity has changed our lives. The infrastructure led to innovation and that led to more demand for more electricity. The same thing will happen with the NBN. The NBN will change the way we live in ways we can't even begin to imagine now. Vint Cerf, widely known as a “father of the internet”, has given us a hint of this in his often quoted remark that 99 per cent of internet applications haven't been invented yet.

Mr Turnbull's second-rate NBN is holding Australia back. He is building a broadband network that won't meet the needs of Australian businesses and families in the future.



# MR TURNBULL'S MESS SLOW. EXPENSIVE. LATE.

Before the last election Mr Turnbull sold his plan to build a second-rate copper NBN on the basis that Australians would get it "sooner" and "cheaper".

Mr Turnbull made two key promises at the 2013 federal election. He promised that:

- Everyone in Australia would have access to the NBN by the end of 2016.
- He could build the NBN for \$29.5 billion.

## MALCOLM TURNBULL'S BROKEN NBN PROMISES

### PROMISE 1

*"Under the Coalition's NBN all premises will have access to download speeds 25Mbps to 100Mbps by the end of 2016."*

Liberal Party, Coalition's Plan for Fast Broadband and an Affordable NBN, Policy and Media release, 9 April 2013.

### PROMISE 2

*"The total funding required for the Coalition's NBN is \$29.5 billion."*

Liberal Party, Coalition's Plan for Fast Broadband and an Affordable NBN, Policy and Media release, 9 April 2013.

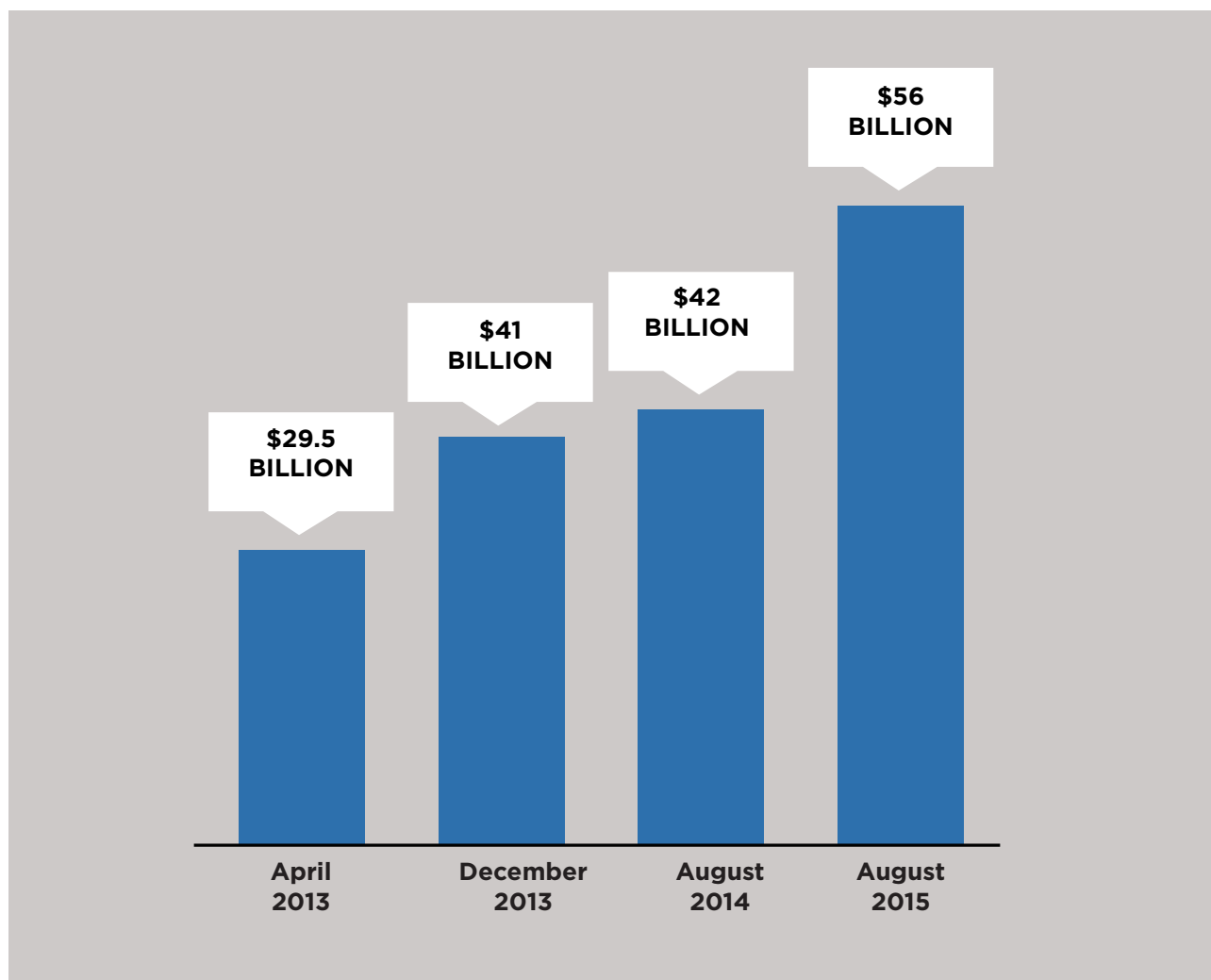
Mr Turnbull has failed spectacularly to deliver on both of these promises.

Currently, less than 19 per cent of the country can access the NBN, and the cost of Mr Turnbull's second-rate NBN has now almost doubled - up to \$56 billion.<sup>12</sup>

The last three years have shown that switching from a first-rate fibre NBN to a copper NBN has been a lot harder than Mr Turnbull thought. Both his April 2013 Election Policy and his December 2013 Strategic Review seriously underestimated how long it would take to negotiate access to the old copper network and PayTV networks, seek new regulatory approvals, and scale up NBN Co's design and construction capability for the addition of three extra access technologies. Mr Turnbull also hopelessly underestimated the cost of patching up the old copper network and building new IT systems to manage all the old networks he bought.

When the original Definitive Agreements were signed in June 2011, Telstra CEO Mr David Thodey accurately described them as “some of the most complex...agreements ever signed in corporate Australia’s history.”<sup>13</sup> Yet in 2013 Mr Turnbull assured Australians that he would be able to renegotiate these agreements “speedily” to get access to the old copper network.<sup>14</sup> This was a massive miscalculation. The renegotiated agreements did not commence until June 2015.<sup>15</sup> This has significantly slowed the rollout of Mr Turnbull’s second rate NBN.

## MALCOLM TURNBULL’S MESS - DELAYS AND COST BLOWOUTS



In August 2015, when Mr Turnbull announced that his second-rate NBN would now cost up to \$56 billion – almost double what he promised in April 2013 – Mr Turnbull attempted to shift blame for the blowout on former management of NBN Co and the cost of fibre-to-the-premises.<sup>16</sup>

However, since late last year, it has been revealed that the cost blowouts are due to massive cost increases and delays in the fibre-to-the-node and hybrid fibre co-axial (HFC or PayTV) rollouts – the access technologies that Mr Turnbull introduced which were not part of the original NBN.

In December 2015, it was [revealed](#) that Mr Turnbull assumed in 2013 that fibre-to-the-node would cost \$600 per home.<sup>17</sup> In the last three years this cost has almost tripled. NBN Co’s latest corporate plan states that the cost per home of fibre-to-the-node is now \$1,600.<sup>18</sup> This alone has contributed up to \$4 billion in capital expenditure to Mr Turnbull’s NBN blowouts.<sup>19</sup> Substantial blowouts have also resulted from the need to build new IT systems to manage all the old networks bought by Mr Turnbull.<sup>20</sup>

Mr Turnbull also significantly underestimated the cost of fixing up the old copper network. He was warned about this when he became the Minister for Communications in September 2013. [NBN Co's input to the Incoming Government Brief in 2013](#) made it clear that "significant network remediation will need to occur in the copper plant."<sup>21</sup> Evidence to the Senate Select Committee on the National Broadband Network in November 2013 also demonstrated that the copper network needed significant remediation.<sup>22</sup>



Mr Turnbull ignored this advice. It has now been [revealed](#) that Mr Turnbull allocated only \$55 million in December 2013 to fix the existing copper network.<sup>23</sup> At the time, Mr Turnbull said that "very conservative assumptions have been taken about the level of proactive remediation of the copper network."<sup>24</sup>

**This cost has now blown out by more than 1,000 per cent.** NBN Co documents [revealed](#) in December 2015 that the cost of patching up the old copper network has blown out to more than \$640 million.<sup>25</sup> This cost could continue to rise even higher. In its latest Corporate Plan NBN Co states that:

*The quality of [the copper] network is not fully known as there has been limited opportunity to evaluate the physical infrastructure at significant scale.<sup>26</sup>*

In April this year, Analysys Mason also pointed to higher potential costs for patching up the old copper network:

*There is currently insufficient data available on the condition of the [copper customer access network] to be able to evaluate how much remedial and augmentation work will be required. Depending on the local condition of the [copper network], if the extent of remedial and augmentation work is significantly different from what has been allowed for, then this may potentially raise cost issues from both a capex and opex perspective.<sup>27</sup>*

Mr Turnbull also underestimated how long it would take to ramp up the construction of his fibre-to-the-node network. He promised before the last election that fibre-to-the-node would be rolling out at scale by mid-2014.<sup>28</sup> This didn't happen either. Earlier this year NBN Co Chief Executive Officer Bill Morrow confirmed in Senate Estimates that fibre-to-the-node is still not rolling out at scale.<sup>29</sup>

In February 2016, it was [revealed](#) that NBN Co had hit less than a third of its internal fibre-to-the-node target due to poor-quality designs and problems with connecting the nodes to the electricity network.<sup>30</sup>

**Costs soar Roll-out delayed**

# **Turnbull's NBN plan in crisis**

**- Sydney Morning Herald, Monday 29 February 2016.**

In April 2016 it was also [revealed](#) that not a single fibre-to-the-node area built by NBN Co under its own steam had been completed on time. Of the first 40 fibre-to-the-node areas, 29 (more than 72 per cent) were delayed by more than 35 days, with some areas delayed by more than 80 days.<sup>31</sup>

To make matters worse, where Mr Turnbull has managed to switch on his second-rate copper NBN it has been plagued with problems.

Customers have been complaining in large numbers about slow speeds, long delays and disrupted services. The Telecommunications Industry Ombudsman recently revealed that the top four suburbs for complaints in the March 2016 quarter were Toukley, Newcastle, Warners Bay and Belmont North – all suburbs where Mr Turnbull's second-rate copper NBN has recently been switched on.<sup>32</sup> NBN Co has now apologised to Hunter residents for all the problems with fibre-to-the-node.<sup>33</sup>



**Slow NBN speeds in Newcastle ‘Here to stay’ unless network is rebuilt: lobby group**

- Newcastle Herald, April 15, 2016.

**Hunter’s National Broadband Network in crisis as consumers are plagued by delays and speed issues | poll**

- Newcastle Herald, April 11, 2016.

**Australian Competition and Consumer Commission keen to look into Hunter NBN complaints**

- Newcastle Herald, May 6, 2016.

On 9 March 2016, it was [revealed](#) that up to five dropouts a day on Mr Turnbull’s second-rate copper NBN is considered “acceptable” by NBN Co.

“FTTN sucks... if I could wave a wand, it’s the bit I’d erase.”

- NBN Co Director Simon Hackett, 25 March 2015.

“If I’m going to have any conflict with the board, it’s going to be around FTTN.”

- Newly appointed NBN Co Director Michael Malone, 26 April 2016.

There have also been significant delays with the rollout of the HFC (PayTV) network. Mr Turnbull promised in December 2013 that 2.61 million homes would be connected to the HFC NBN by December 2016.<sup>34</sup> NBN Co now forecasts that only 10,000 will be connected by June 2016, and only 875,000 by June 2017.<sup>35</sup>

These long delays have wiped \$1.4 billion from NBN Co’s revenue line in the 2015-16 and 2016-17 financial years alone.<sup>36</sup>

In November 2015, it was also [revealed](#) that Mr Turnbull’s overly optimistic assumptions about the HFC had also contributed to cost blowouts on the NBN. More recently, NBN Co admitted that it still has no idea how many connections it will need to install to connect the HFC from the street to peoples’ homes.<sup>37</sup>



There is only one way to describe Mr Turnbull's second-rate NBN – it is a mess. Virtually every assumption Mr Turnbull made about the cost and time needed to roll out his second-rate NBN was hopelessly wrong.

<b>MALCOLM TURNBULL'S FORECASTS WERE HOPELESSLY WRONG</b>		
<b>2013 Assumption</b>	<b>2016 Reality</b>	<b>Difference</b>
Telstra deal to be completed "speedily"	Took nearly two years – not operational until June 2015	+ at least 1 year
FTTN rollout "at scale" as of mid-2014	Still hadn't happened by February 2016	+ ~2 years
FTTN to cost \$600 per home	FTTN to cost \$1,600 per home	+ \$1,000 per home (+167 per cent)
\$55 million to fix up copper	\$641 million to fix up copper	+\$586 million (+1,075 per cent)
2.61 million homes connected to PayTV by 2016	Only 10,000 connected by June 2016, and only 875,000 by June 2017	- 1.7 million to 2.6 million homes (- 66 per cent to 99 per cent)
\$2.5 billion revenue in 2016 and 2017	\$1.1 billion revenue in 2016 and 2017	- \$1.4 billion (- 56 per cent)

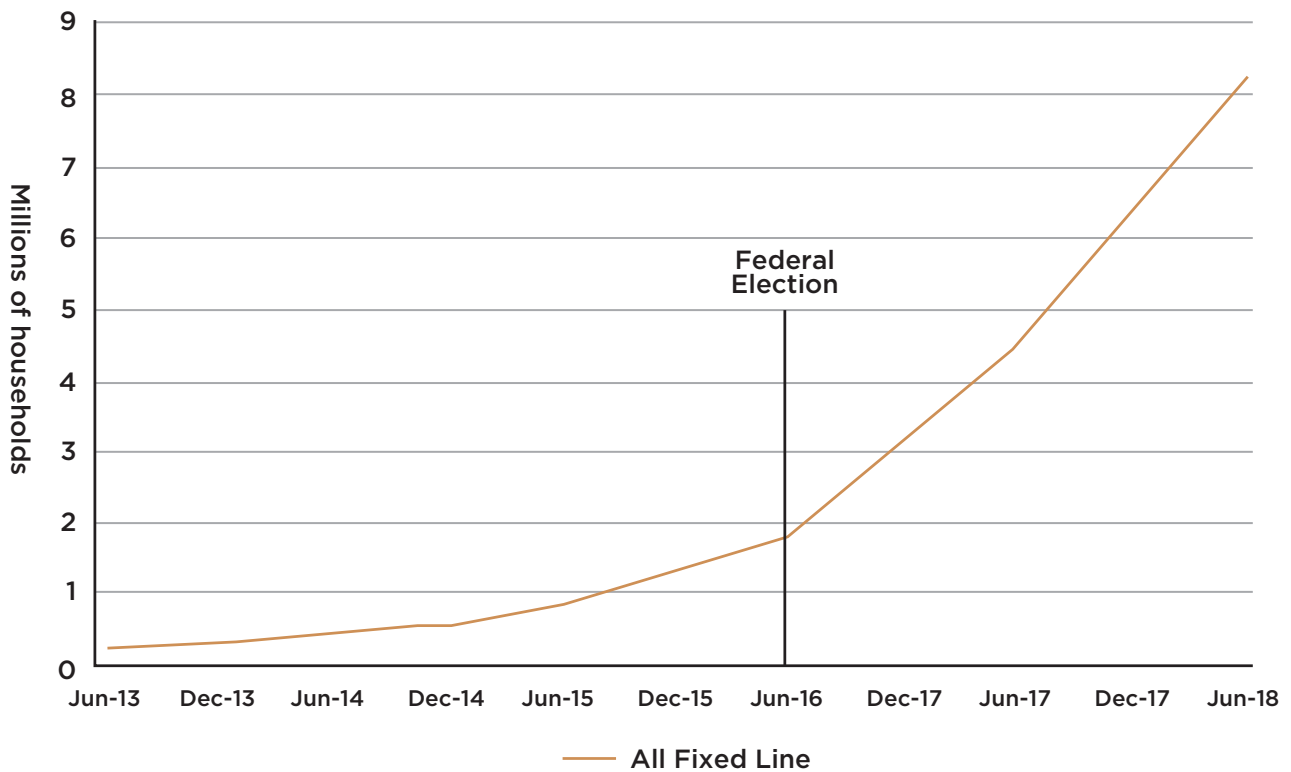
As a result, almost every promise Mr Turnbull made about the NBN before the last election has now been broken.

<b>TURNBULL'S PROMISE</b>	<b>REALITY</b>	
"All homes to have 25 Mbps by 2016"	<b>FAILURE</b>	Latest forecast 2020, more likely June 2022.
Coalition NBN "To cost \$29.5 billion"	<b>FAILURE</b>	Now forecast to cost up to \$56 billion.
"More affordable for consumers"	<b>FAILURE</b>	Australians are paying the same price for copper as for fibre but only for "up to" speeds, and need to pay up to \$235 for a "professional installation" to stabilise FTTN speed and reliability. Residents and small businesses who want fibre have to pay about ten thousand dollars to get it.
Underserved areas to be served "first"	<b>FAILURE</b>	Approximately half a million homes with poor broadband will still be waiting for NBN - in 2018.
New homes will get optic fibre	<b>FAILURE</b>	New homes will get whatever technology NBN Co or private providers deem "cost-effective".
Business districts will get fibre	<b>FAILURE</b>	CBDs and business districts around the country are being saddled with second-rate copper.
"Maximum transparency will be given to this project"	<b>FAILURE</b>	Contract and rollout information kept secret. Liberals refuse to release full business case for NBN.
"Infrastructure Australia will do cost benefit analysis"	<b>FAILURE</b>	Panel featured a noted and strident critic of the NBN. The staff of the panel also featured numerous Liberal advisors.

If the Liberals are re-elected, expect more broken promises on the NBN.

In October 2015 the Liberals released their three-year rollout plan. This is what it looks like on a graph:

### NBN Corporate Plan 2016 - Fixed Line Rollout Plan to 2018



Source: NBN Co Corporate Plan 2016.

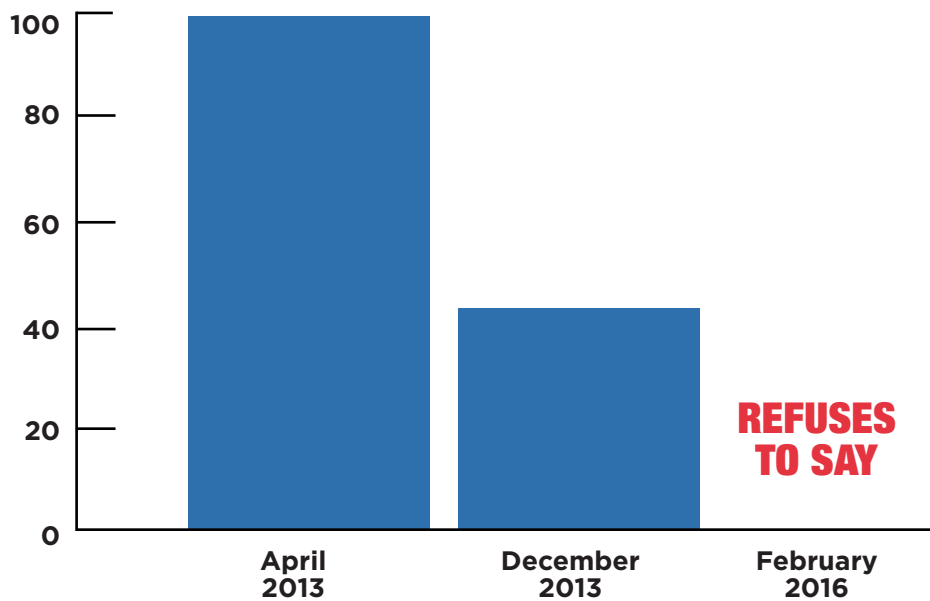
This plan assumes NBN Co can get more than 7 million premises ready for service in three years.<sup>38</sup> It is mostly flat for the first year and then it suddenly takes off – after the election. The Liberals have provided no explanation or detail about how NBN Co will achieve these rollout volumes.

According to the plan, more than 6.2 million fixed line premises (more than half the country) will be ready for service in the next two years.<sup>39</sup> It is not realistic. It is not credible. Even NBN Co Chairman Ziggy Switkowski has called NBN's rollout plan "heroic."<sup>40</sup>

Mr Turnbull's rollout has continued to slip during the past three years:

- In April 2013, Mr Turnbull said 100 per cent of premises would have the NBN by the end of 2016.
- In December 2013, he said only 43 per cent of premises would have the NBN by the end of 2016.<sup>41</sup>
- In August 2015, he said only 22 per cent would have it by June 2016, and he is now refusing to divulge his forecasts for December 2016.<sup>42</sup>

## Percentage of homes and businesses that Malcolm Turnbull promised would have the NBN by December 2016



Despite nearly three years of delays and cost blowouts, Mr Turnbull still maintains that his second-rate version of the NBN can be completed by 2020. This is not credible.

In December 2013, when Mr Turnbull forecast that his second-rate NBN would be complete by 2020, he said that 2.61 million homes would have access to the HFC (PayTV) by 2016.<sup>43</sup> Currently, NBN Co does not have a single paying customer on its HFC network. The HFC rollout is nearly two years behind schedule and is now unlikely to be completed until June 2022.

“I’m not denying for one second that on a project as big as NBN there have been delays, and there have been some cost blowouts.”

*Steve Ciobo, Minister for Trade & Investment, Sky News, 22 May 2016.*

Mr Turnbull’s decision to switch to inferior technologies has also had significant adverse effects on the return to taxpayers from their \$29.5 billion investment. Mr Turnbull was warned about this in the [September 2013 input to the Incoming Government Brief](#) from NBN Co to the Department of Communications and the Department of Finance:

*As the FTTN Network provides lower speed and reliability of services, customers will be less likely to migrate to faster services and will likely not be able to migrate beyond the highest tier, best efforts service that is likely to provide 50/10 Mbps to most but not necessarily all End-Users. This will likely result in lower Access Virtual Circuit (AVC) revenues, and reduce Connectivity Virtual Circuit (CVC) revenues as data volume growth may be reduced. The lower ARPU growth and resulting lower revenues may be the most significant financial consideration in generating the required financial return in NBN Co implementing the Coalition’s Plan.<sup>44</sup>*

Mr Turnbull recklessly ignored this advice. Due to a series of significant delays and cost blowouts under the Liberals, **NBN Co will now require up to \$26.5 billion in private debt under current policy settings, compared to Mr Turnbull’s April 2013 forecast of zero debt.**<sup>45</sup> This has compounded the problem of lower returns to 2040 under the Liberals’ inferior mix of technologies.

Under Mr Turnbull’s watch, the financial return to taxpayers on their \$29.5 billion investment has now crashed from 7.1 per cent to as low as 2.7 per cent.<sup>46</sup>

# CURRENT SITUATION

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Labor's original NBN would have delivered optic fibre to 93 per cent of homes and businesses, providing speeds of up to one gigabit per second.

It is no longer possible to roll out fibre-to-the-premises to 93 per cent of homes and businesses in one stage. Over the last three years, approximately \$15.7 billion in public investment has been sunk into the NBN.<sup>47</sup> Labor cannot fix the mess Mr Turnbull has made with the flick of a switch, or by pulling out every node, or stopping all the work NBN is currently doing without potentially causing more problems and wasting a lot of sunk investment.

## **At 30 June 2016:**

- The taxpayer's total investment in the NBN is expected to be \$21 billion (of \$29.5 billion total).<sup>48</sup>
- Excluding satellite, approximately 19 per cent of the NBN will be rolled out, with about nine per cent of Australian homes and businesses connected.<sup>49</sup>
- Approximately 11 per cent (500,000 premises) of the fibre-to-the-node/basement build is expected to be complete.<sup>50</sup>
- Subject to delays, as many as 1.3 million additional fibre-to-the-node premises are expected to be under contract for construction.<sup>51</sup>
- Approximately 1.34 million homes will have access to fibre-to-the-premises, about 56 per cent of the currently projected total of 2.4 million premises.<sup>52</sup>
- Labor's fixed wireless network will be proceeding at scale, with approximately 65 per cent of the fixed wireless build (~390,000 premises) complete.<sup>53</sup>
- The first of Labor's satellites will be operational, with the second satellite expected to be launched later this year.<sup>54</sup>
- The rollout of satellite customer premises equipment will have commenced, with the transfer of existing interim satellite service customers expected to be complete by 30 June 2017.<sup>55</sup>
- Approximately one quarter of one per cent of the HFC build is expected to be complete (~10,000 homes).<sup>56</sup> A \$1.6 billion contract with Telstra will be in place for planning, design, construction and construction management of the NBN build in the Telstra HFC footprint until the end of the rollout, with another \$400 million contract in place with Arris for cable modem termination systems.<sup>57</sup> Substantial expenditure has been sunk into IT systems to manage the old networks bought by Mr Turnbull – by December 2015, NBN Co had spent \$1.5 billion on its IT systems.<sup>58</sup> In addition, the revised Definitive Agreements with Telstra will be operational, committing NBN Co to acquire Telstra's entire HFC network once the first HFC line has been transferred, with restrictions in place on NBN Co sale of HFC assets. These constraints do not apply to the copper network.<sup>59</sup> NBN Co has also taken on an obligation to maintain the Telstra HFC network so that Telstra can deliver on its FOXTEL contract.
- A series of poor decisions by Mr Turnbull, including switching to low yielding, high maintenance technologies, in concert with significant delays and cost blowouts, has reduced the long term rate of return of the NBN. Under Mr Turnbull, the internal rate of return of the NBN has decreased from 7.1 per cent to as low as 2.7 per cent.

This is the situation Labor confronts in developing our plan to build the NBN Australia needs and deserves.



# LABOR'S PLAN

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## A Shorten Labor Government will:

- Scale up the rollout of fibre-to-the-premises and phase out the rollout of fibre-to-the-node. Construction of fibre-to-the-node will cease when the current pipeline of construction work is completed and design and construction of fibre-to-the-premises is scaled back up.
- Deliver fibre-to-the-premises to up to 2 million more homes and businesses that otherwise would have been saddled with Malcolm Turnbull's second-rate NBN.
- Commission Infrastructure Australia, with input from relevant experts, to manage the development of a plan that outlines how and when the parts of Australia left with Mr Turnbull's second-rate NBN should be transitioned to fibre-to-the-premises. This plan will be commissioned in the first term of a Shorten Labor Government.

NBN Co retains a fibre-to-the-premises design and construct capability, already has IT systems in place to manage fibre-to-the-premises, already has construction contracts in place which accommodate fibre-to-the-premises with no volume restrictions, and already has Definitive Agreements in place with Telstra that are "technology-agnostic", subject to the HFC constraints already identified.<sup>60</sup>

It took the former Labor Government more than two years to effect the commencement of the original Telstra Definitive Agreements. Mr Turnbull's ill-advised decision to reopen these agreements in 2013 delayed the project by nearly two years. This was a critical error of judgement.

The revised Definitive Agreements with Telstra do not require renegotiation to implement Labor's plan.

Fibre-to-the-premises is a proven technology. An emerging technology - known as fibre-to-the-distribution-point or "fibre-to-the-driveway" - has the potential to deliver fast and reliable broadband while reducing customer connection costs. This is a new technology which has not yet been rolled out at scale. Labor will further explore the potential of this technology in government.

Under Labor, the rollout of HFC (PayTV) will continue, recognising the contracts in place, the substantial capital expenditure already sunk, and the constraints placed on future governments by Mr Turnbull in the revised Definitive Agreements. The rollout of Labor's fixed wireless and satellite networks, and fibre-to-the-basement, will also continue. Greenfields will be delivered fibre-to-the-premises.

## COST AND TIME

A Shorten Labor Government will complete the initial rollout of the NBN by 30 June 2022 – the same time the Liberals’ second-rate NBN is likely to be complete.

Labor will complete the initial rollout of the NBN for \$49 to \$57 billion in total funding, compared to the Liberals’ current funding range of \$46 to \$56 billion.

Labor will cap the total funding cost of the initial NBN rollout at \$57 billion. This cap will have priority over the number of additional homes and businesses to get fibre-to-the-premises in the initial rollout. NBN Co’s independent board will monitor and ensure compliance with this funding cap on an annual basis as part of its corporate planning processes.

Metric	LABOR	LIBERALS
Cost (Total funding)	\$49 to \$57 billion	\$46 to \$56 billion
Forecast completion (100 per cent of premises)	June 2022	Forecast: December 2020 Likely: June 2022
Homes and businesses with fibre-to-the-premises	~ 39 per cent	~ 20 per cent
Base rate of return (Internal Rate of Return to 2040)	3.9 per cent	2.7 per cent

Labor has developed a comprehensive business case to cost our plan. This business case has been independently reviewed and tested.

The NBN is off-budget. Labor’s plan assumes public equity assumptions in line with current Turnbull Government forecasts. The Parliamentary Budget Office has confirmed the proposal would not have an impact on the budget as it does not change the timing of, or the cap on, government equity contributions to the NBN.

## CRITICAL ASSUMPTIONS

### Contracts and supply agreements

Labor recognises that NBN Co has existing contracts and supply agreements with a range of delivery partners and suppliers. These agreements will be honoured. Where necessary, a Shorten Labor Government and NBN Co will work with delivery partners and suppliers in good faith to manage the transition process from fibre-to-the-node back to fibre-to-the-premises.

NBN Co currently estimates that design contracts for fibre-to-the-node will be issued for approximately 3.5 million premises by 30 June 2016.<sup>61</sup> A proportion of these design contracts will be repurposed or renegotiated as appropriate to achieve identified policy outcomes.

## CAPITAL EXPENDITURE

Mr Turnbull's numerous claims about the capital costs of rolling out fibre-to-the-premises are false (see Appendix).

In 2013, the Liberals claimed that the capital cost of fibre-to-the-premises was ~\$4,100 per premises and would stay about that high until the 2023-24 financial year.<sup>62</sup> This was disproved in 2015, when the Liberals said that the capital cost of fibre-to-the-premises was now \$3,700.<sup>63</sup> When the Liberals released this number, they again claimed that the cost per premises would stay that high until the end of the build.<sup>64</sup> Now, less than a year later, this has been proven wrong too.

In February this year, it was [revealed](#) that NBN Co had trialed a new fibre-to-the-premises architecture called "skinny fibre" in Ballarat and Karingal in Victoria in 2015.<sup>65</sup> The new architecture dramatically reduces civil construction costs by using smaller equipment. These innovations have decreased capital costs for fibre-to-the-premises by approximately 12 per cent (from ~\$3,700 to ~\$3,250).<sup>66</sup>

Capital expenditure for building fibre-to-the-premises decreases over time. Significant reductions in fibre-to-the-premises capex over time have occurred in similar rollouts around the world. In 2015, Chorus – which is building a fibre-to-the-premises network in New Zealand – decreased its fibre-to-the-premises cost per premises by 29 per cent in a single year (from NZ\$4,753 in 2013-14 financial year to NZ\$3,367).<sup>67</sup> Similarly, Verizon reduced its fibre-to-the-premises cost per premises 38 per cent in three years (from US\$2,600 a home in 2004 to about US\$1,600 a home in 2006).<sup>68</sup>

Labor's policy assumes that fibre-to-the-premises in 2016 will cost \$3,700 a home (as identified in the *Corporate Plan 2016*), but cost efficiencies of approximately 19 per cent will be gained over the build period. These assumptions are conservative – NBN Co has already reduced the cost to about \$3,250 (a -12 per cent reduction) using skinny fibre, and it is expected that further efficiencies will be gained as NBN management is incentivised to drive efficiencies in the fibre-to-the-premises build.

Under arrangements negotiated by Mr Turnbull in the revised Definitive Agreements, the responsibility for remediation of Telstra infrastructure has been transferred to NBN Co. A provision for these costs has been made. However, recent vendor innovations have substantially reduced requirements for civil construction, which will reduce the amount of remediation and augmentation required to roll out more fibre-to-the-premises.

Labor will reverse Mr Turnbull's decision to place the West Coast of Tasmania on the satellites. Under Labor Queenstown, Zeehan and Rosebery will be delivered 21st century fibre-to-the-premises, as they were promised by both parties in 2013. A provision for this investment has been made.

Capital expenditure is expected to be approximately \$3.4 billion higher under Labor's Plan than the Turnbull Liberal Government's plan. This includes a contingency in line with current NBN Co assumptions.

A high contingency is warranted in the Turnbull Liberal Government's plan due to the many unknowns associated with using the old copper network, but is likely to be conservative in the case of Labor's plan, which – with a much greater percentage of fibre-to-the-premises – has fewer unknowns and greater opportunities for reducing build costs over time.

The Turnbull Liberal Government's plan does not include the inevitable costs for upgrading Mr Turnbull's second-rate copper NBN as it becomes obsolete due to its inherent limitations. These upgrade costs will be substantial, and were they included in the Liberals' forecasts, capital expenditure under the Liberals' NBN would exceed Labor's plan.

All other capital expenditure assumptions are in line with current NBN Co forecasts.

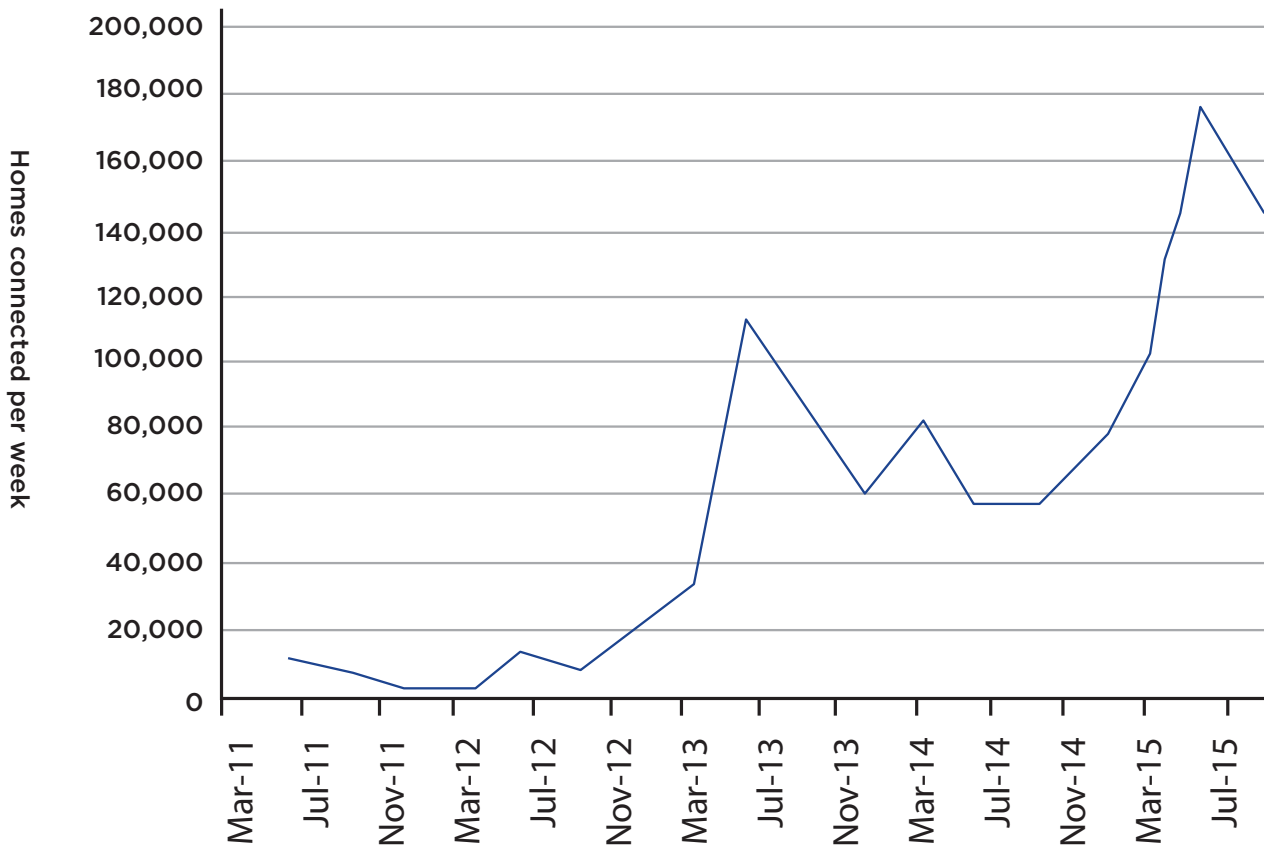
## ROLLOUT PACE

Mr Turnbull's frequent claims about excessive timeframes for rolling out fibre-to-the-premises are also false.

The Liberals have now conceded that the timeframe for rolling out fibre-to-the-premises has decreased due to reduced civil construction requirements.<sup>69</sup> Innovations used in the fibre-to-the-premises rollouts in Ballarat and Karingal decreased rollout timeframes by about four weeks (the build process was completed in about eight months in the Ballarat and Karingal trial areas).<sup>70</sup> Further gains will be made as NBN management is incentivised to drive efficiencies in the fibre-to-the-premises build.

The rollout rates for fibre-to-the-premises for each quarter from the beginning of deployment trials are shown below (the rollout commenced after the Telstra deal became unconditional in March 2012). As can be seen, the number of premises that achieved ready for service in the quarter ending June 2015 was approximately 175,000, of which brownfields FTTP/B made up approximately 154,000, or about 11,000 homes per week.<sup>71</sup>

### Fibre-to-the-premises - Quarterly Progress



Peak fibre-to-the-premises ready for service build numbers in Labor's plan are prudent and achievable. The transition back to fibre-to-the-premises will take place in a manner that is manageable for NBN Co's construction partners and does not cause workforce demobilisation. Fibre-to-the-premises homes ready for service per quarter are expected to reach similar volumes to that achieved by NBN Co in the second quarter of 2015. Peak fibre-to-the-premises volumes are expected to be slightly higher, recognising that the June 2015 build numbers were reached at a time when NBN Co was focussed on commencing the HFC and FTTN builds rather than ramping up the fibre build.

## OPERATIONAL EXPENDITURE

Costs to operate and maintain fibre-to-the-premises are lower than for fibre-to-the-node, particularly when costs to maintain the ageing copper network are taken into account. The risk of quickly escalating direct operating costs post rollout and over the long term (2024-25 to 2039-40) is substantially reduced under Labor's policy. Risks of escalating indirect operating costs are also reduced.

NBN Co assumes that approximately 30,000 nodes will be required to complete the FTTN rollout under current policy settings.<sup>72</sup> NBN Co also estimates a cost of approximately \$2,000 per year to power each node, leading to ongoing costs of about \$60 million a year just to operate the nodes.<sup>73</sup>

Operating expenditure is expected to be approximately \$1.2 billion lower under Labor's plan than the Liberal plan (to build completion). This partly reflects the timing of payments to Telstra under the Definitive Agreements.

However, operating expenditure savings will be material in Labor's plan post-build, reflecting material savings from lower maintenance costs on the copper network and the lower operating costs associated with fewer FTTN premises.

## REVENUES AND TAXPAYER RETURN (IRR)

Labor's original take up assumptions for the NBN on fibre-to-the-premises have so far been demonstrated to be correct, despite Mr Turnbull's numerous false claims to the contrary (see Appendix).

In 2012, Labor forecast that the long term take up of fibre-to-the-premises would be approximately 74 per cent.<sup>74</sup> In the first 138 fibre-to-the-premises areas to be switched on – comprising about 310,000 homes and businesses – 73.3 per cent of homes have elected to take up a service.<sup>75</sup>

It is not yet known whether similar success will be met on the fibre-to-the-node network. NBN Co's take up on fibre-to-the-node as at the end of March 2016 is approximately 14 per cent (noting that no fibre-to-the-node serving area has undergone migration yet), but fibre-to-the-node is more vulnerable to wireless substitution than fibre-to-the-premises, particularly in cases where the copper will only accommodate low speeds and poor reliability.<sup>76</sup>

Revenues are also dependent on the speed tiers taken up by Australians, and the ability of Australians to migrate to higher speed tiers over time as bandwidth demand increases. Although fibre-to-the-node subscribers are still few in number (about 43,500 homes as at the end of March 2016), reflecting the many delays that have plagued the fibre-to-the-node rollout, only 11 per cent of homes and businesses on fibre-to-the-node are signing up the higher speed tiers (50 megabits per second and above), roughly half the number on fibre-to-the-premises.<sup>77</sup>

NBN Co is currently tracking well behind its 2015-16 financial year forecasts for homes signing up to the higher speed tiers on fibre-to-the-node. As noted, as of the end of March 2016, only 11 per cent of homes and businesses on fibre-to-the-node had selected speeds of 50 megabits per second or higher – but NBN's forecast for 30 June 2016 is 23 per cent. In other words, fewer than half the forecast homes on fibre-to-the-node are signing up to the higher speed tiers.<sup>78</sup>

This problem will become worse for fibre-to-the-node in the future, because early adopters tend to select faster speeds, whereas late adopters post-migration tend to lower the average speed tier mix due to the transfer of voice-only customers.<sup>79</sup> Low speed tier numbers on fibre-to-the-node are also likely to reflect the fact that NBN Co will only offer "up to" speeds on fibre-to-the-node above the 25/5 megabits per second speed tier.

NBN Co's fibre-to-the-premises network already offers gigabit speeds and is easily scalable to much higher speeds in the future. Fibre-to-the-node is not capable of these speeds. Accordingly, Australians stuck with Mr Turnbull's second-rate copper NBN will not be able to migrate to higher speeds when demand increases unless further significant capital expenditure is invested in the future to upgrade the network. As [NBN Co's input into the 2013 Incoming Government Brief](#) warned, this adversely affects both Access Virtual Circuit (AVC) (speed tier) and Connectivity Virtual Circuit (CVC) (data usage) revenues.<sup>80</sup>



Revenues under Labor's plan will be roughly the same as under the Turnbull Liberal Government's plan until build completion, but will increase substantially after network completion due to the opportunity to offer higher speed tiers and migration paths, with resulting CVC revenues, particularly from business services.

Labor's plan will result in a higher return on taxpayer equity than the Liberals' second-rate NBN (a minimum of 3.9 per cent compared to as low as 2.7 per cent for the Liberals' second-rate NBN). This is largely the result of higher revenues, but is also due in part to lower operating expenditure. Both of these effects become significant in the period following build completion.

## WHOLESALE PRICES

Wholesale prices on the NBN will be the same or lower under a Shorten Labor Government as under the Liberals.

NBN Co's wholesale prices are regulated by the Australian Competition and Consumer Commission (ACCC) under NBN Co's Special Access Undertaking (SAU), approved in November 2013.<sup>81</sup> Labor's plan assumes that NBN Co's wholesale prices will decrease in real terms, per the SAU.<sup>82</sup>

## EQUITY/DEBT RATIO

Mr Turnbull's second-rate NBN yields lower revenues over the long term due to slower speeds, impediments to migration to higher speeds over time, and higher operating costs. Mr Turnbull was warned about this in the [September 2013 input to the Incoming Government Brief](#) from NBN Co to the Department of Communications and the Department of Finance:

*As the FTTN Network provides lower speed and reliability of services, customers will be less likely to migrate to faster services and will likely not be able to migrate beyond the highest tier, best efforts service that is likely to provide 50/10 Mbps to most but not necessarily all End-Users. This will likely result in lower Access Virtual Circuit (AVC) revenues, and reduce Connectivity Virtual Circuit (CVC) revenues as data volume growth may be reduced. The lower ARPU growth and resulting lower revenues may be the most significant financial consideration in generating the required financial return in NBN Co implementing the Coalition's Plan.<sup>83</sup>*

The September 2013 input to the Incoming Government Brief also warned that:

*Debt providers will likely assess the internal rate of return as one of the main measures to help them understand the ongoing level of support from equity providers in NBN Co (e.g. whether the expected equity returns mean equity providers may be willing to inject more capital in NBN Co if required under a debt stress test scenario).<sup>84</sup>*

Mr Turnbull ignored this advice. Under his watch, the forecast financial return to taxpayers on their \$29.5 billion investment has now plummeted to as low as 2.7 per cent.<sup>85</sup>

Due to a series of significant delays and cost blowouts under the Liberals, NBN Co will now require up to \$26.5 billion in private debt under current policy settings, compared to Mr Turnbull's April 2013 forecast of zero debt.<sup>86</sup> This has compounded the problem of lower returns to 2040 under the Coalition's inferior mix of technologies. Approximately \$21 billion (of \$29.5 billion total) in public equity is expected to have been invested in the NBN by 30 June 2016, with the last public equity forecast to be exhausted by 30 June 2017.<sup>87</sup>

In the 2016-17 Budget, the Liberals established a taskforce to seek independent expert advice on strategies to meet NBN Co's future funding requirements.<sup>88</sup> The Liberals have further identified that:

*NBN is currently undertaking the necessary preparatory work on the proposed debt raising. In the event that NBN is initially unable to raise the necessary debt on acceptable terms, interim funding support may be required. Were it required, additional Government financial support for NBN would have implications for the fiscal position, for example by increasing assets and liabilities on the balance sheet and, depending on the nature of support, could have positive or negative impacts on the underlying cash balance.<sup>89</sup>*

The Liberals have indicated that the taskforce has contracted Lazard to provide advice on this matter by 30 June 2016.<sup>90</sup> A Shorten Labor Government will consider the expert advice of the taskforce, but notes that Mr Turnbull's second-rate copper NBN is a riskier proposition for debt providers than Labor's planned policy settings, which will deliver higher long term returns and fewer risks (a base Internal Rate of Return of 3.9 per cent compared to 2.7 per cent under the Liberals).

## **LEGISLATIVE AND REGULATORY**

The former Labor Government implemented a number of historic competition reforms which transformed the telecommunications landscape in Australia. These reforms delivered the structural separation of Telstra and the introduction of an open-access, wholesale-only network offering equivalent terms and conditions for all comers, with no incentive to unfairly discriminate between access seekers. These reforms have promoted greater competition and consumer benefits in the telecommunications sector.

The Liberals have attempted to roll back many of these reforms. In 2013, Mr Turnbull assembled what was known as the Vertigan Panel to review Labor's NBN reforms and conduct a cost benefit analysis. Instead of appointing Infrastructure Australia as promised, Mr Turnbull appointed a panel which featured a noted and strident critic of the NBN. The staff of the panel also featured numerous Liberal advisors.<sup>91</sup>

In June 2014, the Vertigan Panel concluded its statutory review of the legislative and regulatory arrangements underpinning the NBN introduced by the former Labor Government. It said: "Overall, the review found a high level of satisfaction among stakeholders with the 2010-11 changes to the legislative framework and its operation."<sup>92</sup>

Despite this finding, a few months later when handing down its Market and Regulatory Review, the Vertigan Panel recommended wide-ranging and retrograde changes to the legislative framework underpinning the NBN. Many of these recommendations – some of which the Abbott-Turnbull Government attempted to implement in legislation before being forced to back down – would have rolled back a number of the competition and consumer-friendly reforms underpinning the NBN.<sup>93</sup>

Labor remains committed to the historic competition reforms introduced under the previous Labor Government. These policy settings will continue to deliver robust retail competition and benefits for Australian consumers.

# APPENDIX

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## MALCOLM TURNBULL'S NBN "COUNTERFACTUALS"

### Summary

- When Labor first announced the National Broadband Network in 2009, the peak funding cost was estimated at \$43 billion.<sup>94</sup> NBN Co's final business case under previous management – the 2013-16 Corporate Plan – costed the NBN at \$44.9 billion.<sup>95</sup> In other words, in four years, there was a \$1.9 billion difference in forecast total funding in nominal terms. The 2013-16 Corporate Plan was independently reviewed by KPMG and Ernst & Young.<sup>96</sup>
- When Malcolm Turnbull first announced his NBN policy in April 2013, the peak funding cost was estimated at \$29.5 billion.<sup>97</sup> NBN Co's latest business case – the Corporate Plan 2016 – costs Malcolm Turnbull's NBN at \$49 billion, and up to as much as \$56 billion.<sup>98</sup> In other words, in a little more than two years, there has been a \$19.5 billion to \$26.5 billion difference in forecast total funding in nominal terms. As Minister for Communications, Malcolm Turnbull cancelled the practice of independent external reviews of NBN Co's Corporate Plans.<sup>99</sup>
- Malcolm Turnbull has released three "counterfactuals" on what Labor's original model for the NBN would "really" have cost:
  - \$94 billion, delayed until 2024-25 financial year (April 2013).
  - \$73 billion, delayed until 2023-24 financial year (December 2013).
  - \$74 to \$84 billion, delayed until 2026 to 2028 (August 2015).
- Each of these counterfactuals has now been demonstrated to be false or misleading. None of these counterfactuals has been subject to independent external oversight.<sup>100</sup> The release of these counterfactuals has also coincided with cost blow outs on Malcolm Turnbull's NBN.

## THE APRIL 2013 COUNTERFACTUAL

- This counterfactual was released to the Daily Telegraph on the morning of the Liberals' NBN policy announcement (9 April 2013).<sup>101</sup> It alleged that the "real cost" of Labor's NBN would be \$94 billion and it would take until the 2024-25 financial year to roll out.
- At a hearing of the Joint Committee on the National Broadband Network on 19 April 2013, executives from NBN Co demonstrated that the assumptions underpinning Malcolm Turnbull's \$94 billion claim were false.<sup>102</sup>
- For example, in an effort to decrease revenue on Labor's NBN, Malcolm Turnbull "assumed" that the Average Revenue per User (ARPU) in 2012 would be \$22.46 (see below) – which is less than NBN Co's cheapest wholesale price.<sup>103</sup> Mr Turnbull also "forecast" that ARPU would be only \$29 in 2015 compared to Labor's forecast of \$39. NBN Co's ARPU in June 2015 (when the Liberals were still largely rolling out Labor's NBN) was \$39 – precisely as forecast – and in December 2015 it was \$43, already higher than Mr Turnbull's 2021 forecast of only \$38.<sup>104</sup>

(5 million)	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
REVENUE	\$0	\$2	\$16	\$100	\$379	\$903	\$1,504	\$2,091	\$2,682	\$3,243	\$3,806
OPEX	-\$337	-\$521	-\$1,093	-\$1,777	-\$2,904	-\$3,628	-\$3,394	-\$3,350	-\$3,201	-\$3,037	-\$3,151
EBITDA	-\$337	-\$519	-\$1,077	-\$1,677	-\$2,525	-\$2,725	-\$1,890	-\$1,259	-\$519	\$206	-\$655
CAPEX	-\$463	-\$888	-\$3,190	-3,946	-\$5,016	-\$4,920	-\$4,224	-\$3,986	-\$3,760	-\$3,611	-\$3,354
CASHFLOW	-\$729	-\$1,154	-\$3,717	-\$5,310	-\$7,360	-\$7,897	-\$6,574	-\$5,900	-\$4,996	-\$4,285	-\$3,759
FUNDING	-\$829	-\$1,983	-\$3,700	-\$11,010	-\$18,371	-\$26,268	-\$32,842	-\$38,742	-\$43,738	-\$48,023	-\$51,782
<b>ARPU (\$/month)</b>		<b>\$22.64</b>	<b>\$24.64</b>	<b>\$25.84</b>	<b>\$29.11</b>	<b>\$31.35</b>	<b>\$32.60</b>	<b>\$33.86</b>	<b>\$35.22</b>	<b>\$36.69</b>	<b>\$38.26</b>
<b>REAL ARPU (\$2012)</b>		<b>\$22.64</b>	<b>\$24.03</b>	<b>\$24.58</b>	<b>\$27.01</b>	<b>\$28.36</b>	<b>\$28.77</b>	<b>\$29.14</b>	<b>\$29.56</b>	<b>\$30.03</b>	<b>\$30.54</b>

**Source: Coalition Policy: Background Papers (9 April 2013), p. 23.**

- Malcolm Turnbull also “assumed” that long term take up on Labor’s NBN would be only “64 per cent in 2021 and 67.5 per cent in 2028,” compared to Labor’s assumption of 74 per cent.<sup>105</sup> This has also been proved wrong. As of February 2016, in the first 138 fibre areas to be switched on – comprising about 310,000 homes and businesses – 73.3 per cent of homes have elected to take up an NBN service.<sup>106</sup> NBN Co now assumes that long-term take up on the NBN will be 73 per cent (reflecting Mr Turnbull’s 2013 decision to permit “cherry picking” by private infrastructure providers in cities).<sup>107</sup>

## THE DECEMBER 2013 COUNTERFACTUAL

- This counterfactual was released with the Strategic Review on 12 December 2013.<sup>108</sup> This effort alleged that the “real cost” of Labor’s NBN would be \$73 billion and it would take until the 2023-24 financial year to roll out.
- This counterfactual was released on the same day as a blowout in Malcolm Turnbull’s NBN – from \$29.5 billion in total funding to -\$41 billion.<sup>109</sup> This was also the day Malcolm Turnbull broke his promise to get the NBN to all homes by 2016.
- In 2013-14, a Senate Committee examined the Strategic Review to test the assumptions behind the \$73 billion claim. The Committee found that the Strategic Review contained “financial manipulations and other irregularities.”<sup>110</sup> These included:
  - Approximately \$4 billion in “business as usual” architecture savings were excluded (these savings were characterised as “radical” for inclusion in another scenario called the “Radically Redesigned FTTP”).
  - Higher assumed unit costs for the fibre build (that added \$14.4 billion to capital expenditure) were extrapolated out to 2024 without any efficiency savings (2.5 per cent only in FY17 and FY18).
  - NBN Co’s assumed revenues were halved (to \$9 billion) from assumptions about delay and wireless substitution.
- The higher assumed capital expenditure costs in the Strategic Review have since been demonstrated to be false. The Strategic Review claimed that the capital cost of fibre-to-the-premises was ~\$4,100 per premises and would stay about that high until 2023-34 financial year.<sup>111</sup>

Capital Expenditure							
	Actual LTD Sept-13 (\$billion)	Corporate Plan			Revised Outlook		
		\$/ premises	Premises Passed ('000s)	FY21 Capex (\$billion)	\$/ premises	Premises Passed ('000s)	FY24 Capex (\$billion)
FTTP							
Brownfields LNDN	-	1,054	10,091	10.6	1,997	10,091	20.1
Brownfields LNDN Provision	-	70	10,091	0.7	-	-	-
<b>Total LNDN</b>	<b>0.7</b>	<b>1,123</b>	<b>10,091</b>	<b>11.3</b>	<b>1,997</b>	<b>10,091</b>	<b>20.1</b>
Brownfields Connections	0.1	1,398	7,002	9.8	2,100	7,002	14.7

**Source: NBN Co Strategic Review, Exhibit 2-25, p. 61.**

- This was disproved in 2015, when the Abbott-Turnbull Government said that the capital cost of fibre-to-the-premises was now \$3,700.<sup>112</sup> This \$3,700 cost included additional costs not counted in the Strategic Review estimate of ~\$4,100.<sup>113</sup> Once again, this cost was forecast to be the average cost until the end of the build:

CPP by Technology						
	FTTP		FTTN	HFC	FW	Satellite
	Brownfields	Greenfields				
<b>Weighted average CCP (rounded nearest \$100)</b>						
Capital Expenditure	3,700	2,100	1,600	1,100	4,100	7,900
Infrastructure lease	700	-	700	700	800	-
<b>Total</b>	<b>4,400</b>	<b>2,100</b>	<b>2,300</b>	<b>1,800</b>	<b>4,900</b>	<b>7,900</b>

*The following provides an outline as to how CPP is presented and calculated:*

- The Cost per Premise is an internal nbn management calculation used to assess the comparative incremental costs of construction of each access technology*
- The CPP reported is a weighted average over the full period of build*

**Source: NBN Co Corporate Plan 2016, Table 8, p. 67.**

- The \$3,700 cost “over the full period of build” has since been proved wrong as well. In February this year, it was [revealed](#) that NBN Co had trialled a new fibre-to-the-premises architecture called “skinny fibre” in Ballarat and Karingal in Victoria in 2015.<sup>114</sup> The new architecture virtually eliminated civil construction costs by using smaller equipment. These innovations have decreased capital costs for fibre-to-the-premises by approximately 12 per cent (from ~\$3,700 to ~\$3,250), in line with Labor’s original NBN forecasts that the capital cost of FTTP would decrease over time.<sup>115</sup>
- The Strategic Review’s revenue assumptions for FTTP have also been proved wrong. The Strategic Review assumed reduced revenue from Labor’s NBN using similar assumptions to the April 2013 counterfactual, alleging that “fewer residential premises [would become] NBN Co customers than in the Corporate Plan – driven by an accelerated migration to mobile-only and the potential for existing broadband infrastructure providers to use fibre to serve residential premises such as large apartment blocks.”<sup>116</sup> As noted above, Labor’s 2012 long term take up assumptions on FTTP – 74 per cent – have been demonstrated to be accurate. Further, under Labor’s policy, facilities competition (“cherry-picking”) was proscribed – Malcolm Turnbull introduced this policy change in his broadband policy.

- Malcolm Turnbull has since admitted that the Strategic Review was flawed. On 25 August 2015, Malcolm Turnbull told Crikey: “The strategic review took six weeks. [The Corporate Plan 2016] has taken a year... I think the truth is, prior to this work being completed we didn't really know how much it was going to cost. So much of the input was questionable.”<sup>117</sup> **And yet Malcolm Turnbull relied on the Strategic Review to make radical changes to the NBN.**

## THE AUGUST 2015 COUNTERFACTUAL

- This counterfactual was included in NBN Co's Corporate Plan 2016, released on 24 August 2015. This effort was used to allege that the “real cost” of Labor's NBN would be \$74 to \$84 billion and it would take until 2026 to 2028 to roll out.<sup>118</sup>
- Once again, this counterfactual was released on the same day as another blowout in Malcolm Turnbull's NBN – this time from \$41 billion in total funding to up to \$56 billion.<sup>119</sup>
- On 25 November 2015, Malcolm Turnbull said about this counterfactual:

*[The Liberal Government's NBN will] be completed for \$30 billion dollars less and between six and eight years sooner than it would have been, had Labor's original plan been continued with. Now that is not my forecast. That is the forecast of the management of the NBN Co.*<sup>120</sup>
- This is false. As NBN Co CEO Bill Morrow confirmed to a Senate committee on 15 September 2015, this counterfactual did not attempt to cost “a continuation” of Labor's NBN at all, but what a full fibre NBN would cost if it was to be restarted in 2015:

*There was no request that said “if you went back in time, hypothetically, from 2013, and if you kept going with an all-FTTP fixed line footprint, what would the number be?” We were not asked to do that. The question by the government was: “if we were to look at moving right now back to an FTTP environment, what would that number be?”*<sup>121</sup>
- In other words, the August 2015 “counterfactual” includes two years of cost blowouts under Malcolm Turnbull's NBN, the delays caused by winding down the fibre build and the extra costs of replacing fibre-to-the-node with fibre-to-the-premises.
- The August 2015 “counterfactual” also used NBN Co's 2015 assumption that the capital cost of fibre-to-the-premises would be \$3,700 until the “end of the build.” As noted above, this assumption has now been proved wrong.



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