



Australia's
broadband
network

Corporate Plan

2016





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Legal notice

Introduction

This 2016 Corporate Plan has been prepared by nbn co limited (**nbn**) for its shareholder ministers, the Hon Malcolm Turnbull MP and Senator the Hon Mathias Cormann (**Shareholder Ministers**) as required by the Public Governance, Performance and Accountability Act 2013 (Cth) (**PGPA Act**) (in particular section 35(1)(b) and 95(1)(b) of the PGPA Act), the Public Governance, Performance and Accountability Rule 2014 (Cth) (**PGPA Rule**), the Commonwealth Government Business Enterprise Governance and Oversight Guidelines (June 2015) (**GBE Guidelines**) and Australian Government policy as communicated to **nbn** by the Commonwealth from time to time (together, **Reporting Obligations**).

The reporting periods covered by this plan are FY16 to FY18 inclusive, and an outlook for FY19 is also provided. The first reporting period covered by this plan is FY16. The third, and last, reporting period covered by this plan is FY18.

Disclaimer

The classification of this document is 'Commercial - Confidential' and must not be disclosed other than with the consent of **nbn**. This plan contains various long-range plans, projections, high level estimates and other forward looking information (**Estimates**). Those Estimates are based on the best considered professional assessment of present economic and operating conditions, present Australian Government policy, and a number of assumptions regarding future events and actions which, at the date of this document, are expected to take place. The Estimates involve known and unknown risks, uncertainties and other factors beyond control that may cause **nbn's** actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the Estimates.

While the Estimates are based on the best considered professional assessment, the management team and officers (as defined in the Corporations Act) of **nbn** do not give any guarantee or assurance to any third party that the results, performance or achievements expressed or implied by the Estimates will actually occur, and such Estimates should not be relied on or considered to be a representation of what will happen by any third party.

Other than as required by the Reporting Obligations, **nbn** and its officers have no obligation to update the Estimates based on circumstances, developments or events occurring after the publication date of this document.

This plan also contains Estimates in respect of periods after 30 June 2018, including in section 2.5 (MTM compared to an all FTTP rollout), section 5.7 (FY19 outlook) and section 5.8 (Peak funding estimates and scenario analysis). Management and the Board do not give any guarantee or assurance that the results, performance or achievements expressed or implied by such Estimates will actually occur. Additionally, the Operating Plan addresses the period FY15-FY22 only, Management and the Board have not taken a view on assumptions beyond that time, and no better estimates exist than the assumptions applied in the Strategic Review dated December 2013.

Calculations included in this document are based in part on the 12 quarter Integrated Deployment Plan (IDP) as it stood at 29 May 2015 and will continue to be updated as that rollout plan evolves.

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Part A

Plan outline





About nbn

Established in 2009, **nbn** co limited (**nbn**) is owned by the Commonwealth of Australia. **nbn's** key objective is to ensure all Australians have access to very fast broadband as soon as possible, at affordable prices, and at least cost to taxpayers.

To achieve this objective, **nbn** has been structured as a wholesale-only access network available on equivalent terms to all access seekers. This is intended to level the playing field for Australian telecommunications and create real and vibrant competition within the industry.

nbn is a Government Business Enterprise (GBE).



Why nbn?

activating
8 million
premises

Statement of Expectations (SOE)

The Government has set out a Statement of Expectations dated 8 April 2014 (**SOE**), consistent with the Strategic Review undertaken by **nbn**, which provides that:

- » to minimise cost and increase speed of deployment, the rollout should allow for a “mixed-technology model”
- » the design of the network will be guided by the Government’s policy objectives of providing access to download data rates of at least 25 megabits per second (Mbps) to all premises and at least 50 Mbps to 90% of fixed line premises
- » all Australians have access to very fast broadband as soon as possible
- » the network is intended to be a wholesale-only access network, available on equivalent terms to all access seekers
- » **nbn** is to have flexibility and discretion in operational, technology and network design decisions, within the constraints of a public equity capital limit of \$29.5 billion.

Purpose

Connect Australia, bridge the divide

The primary role of **nbn** is to enable Australia’s greater participation in the digital economy and help bridge the digital divide—between young and old, city and country, and Australia and the rest of the world.

At a time when Australia is undergoing fundamental shifts, including an ageing population and evolving economic conditions, **nbn** is delivering vital infrastructure investment and promises to further transform the way business operates and the way we live our lives:

- » direct benefits are already apparent in areas such as commerce – applications that reduce administration costs, cloud technologies that can reduce IT spending
- » national public benefits come from innovations in e-government, health and the environment. And online resources and online learning are opening up greater educational opportunities for our students
- » indirect benefits include greater social inclusion and equal opportunity
- » and benefits will flow from applications and new ways of working that have yet to be invented.

Company performance

Investing in capabilities that deliver progress

In December 2013, **nbn** published an independent assessment of the state of the rollout and the company up to that time. The Strategic Review identified a series of factors that had led to financial and operational under-performance relative to the then Corporate Plan. Since then, progress has been made on many of these fronts, most notably:

Management and governance

- » **clear company purpose and objectives**, starting with the goal of activating eight million homes and businesses by 2020
- » **new corporate governance structure** embedded across the company, culminating at the **nbn** executive committee, to ensure effective and appropriate governance across the organisation

- » **single source of truth** for critical operational metrics, being reviewed on a daily, weekly and monthly basis, feeding quarterly public updates to the Board, Shareholders and market
- » cross-company effort underway to **create a high-performing culture**, resulting in significant improvements in critical drivers of people engagement, including developing a clear company vision, enabling organisational clarity and enhancing leadership capability.

Internal processes

- » **comprehensive integrated planning program** involving key internal and external stakeholders to judge the true complexity and time required to meet the SOE
- » **transformation program**, driving progress against the most critical initiatives required to scale the business, while improving key business capabilities and processes
- » **Business Process Excellence (BPE)** to remove bottlenecks, e.g. reducing significant queues in connections and activations, with a deep focus on reducing waiting times through root cause analysis and timely rectification of issues.

Rollout and activations

- » revised fibre architecture and **reduced time for construction** from >16 months down to ~9 months
- » major **improvements in clean-up of Service Class Zero (SCO)** issues in the Fibre To The Premises (FTTP) build that limited the ability for Retail Service Providers (RSPs) to place orders
- » **completed integration of the 121 Points of Interconnect (POIs)** planned in the transit network, enabling RSPs to connect to all Fibre Access Nodes (FANs)
- » significantly **improved relationships with Delivery Partners (DPs)**, creating a steady flow of work leading to higher quality and increasing productivity investments
- » revised **Fixed Wireless (FW) and Satellite plans** to better address premises in the non-fixed line footprint
- » **additional spectrum secured** in urban-fringe areas to help overcome a shortfall in FW premises that can be covered with existing spectrum holdings.

Product and marketing

- » launch of **new products**: 50Mbps wholesale peak speed* on FW, Technology Choice program, Fibre To The Building (FTTB)
- » **brand repositioning**, moving it from being seen as a utility function to that of a visionary company that will deliver benefits for every Australian.

Overall, **significant progress has been made in stabilising nbn's basic operational capabilities** and increasing the rate of services being delivered, which creates a strong platform to meet its overall goals.

Disclaimer:

- * The nbn™ network is being designed to provide these speeds to our wholesale customers, telephone and internet service providers. End-user experience, including the speeds actually achieved over the nbn™ network, depends on the technology over which services are delivered to their premises and some factors outside nbn's control like equipment quality, software, broadband plans and how the end-user's service provider designs its network.

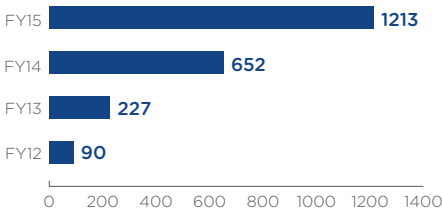
Company performance

Doubling the footprint – every year, for the next 3 years

The performance of **nbn** in its early years was uneven, with repeated missed targets and re-stated expectations. Progress since the Strategic Review has been positive with a significant improvement in FTTP deployment, RSP and end-user experience, brand image and achievement of key financial and operational targets.

Exhibit 1: Premises Ready For Service (RFS)

Premises RFS - cumulative ('000)



For FY12 and FY13 premises passed are shown

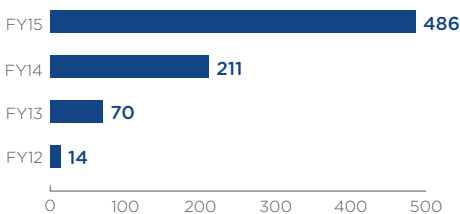
Deploying a mix of technologies in the next three years, premises RFS approximately double every year from 1.2 million premises by end FY15 to 9.1 million premises by end FY18.

Activating premises

Goal is for eight million premises activated by 2020; continuing to activate premises on the **nbn**TM network across Australia at exponential growth, targeting 4.4 million premises by end FY18.

Exhibit 2: Premises activated

Premises activated - cumulative ('000)

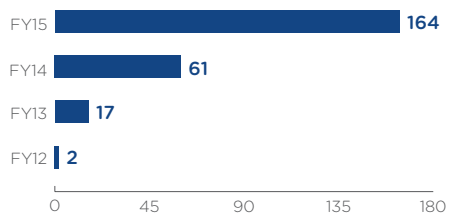


Exponential revenue growth

Continuing to increase the number of premises connected to the **nbn**TM network, driving exponential year-on-year increases in revenues – targeting \$1.7 billion in annual revenue in FY18.

Exhibit 3: Total annual revenue

Revenue (\$m)





Customer experience

The Customer Experience Metric (CEM) is a measure of the RSPs' sentiment of working with **nbn**.

Committed to efficiently deploying Australia's broadband network, there is a strong focus on ensuring the satisfaction of **nbn** customers is maintained throughout the process.

CEM rating was 6.6 out of 10 in FY15, an improvement over the 6.4 achieved in FY14.



Best place to work

For the most recent employee survey conducted in June 2015, **nbn** had a strong participation rate of

90 per cent

and received an engagement score of

51 per cent.

Management is leveraging the findings of this survey to improve **nbn's** internal culture by working to build a better working environment and a winning culture.

nbn is also focused on maintaining a high staff retention rate year on year, and achieved an

87 per cent

retention rate in the past 12 months.

Technology options – accelerates progress

The choice of delivery platform is outcomes-based, technology-agnostic—optimising for cost, speed of rollout and long term value.

The multi-technology mix (MTM) optimises for long term value and speed of rollout at the lowest cost to taxpayers.

FTTP – Fibre To The Premises



Revised fibre architecture simplifies and increases speed of rollout.

FTTB – Fibre To The Basement



Opens up access to end-user premises in Multi-Dwelling Units (MDUs), previously blocked due to inability to deploy fibre backbones ubiquitously. Faster speed of rollout at lower cost than FTTP.

FTTN - Fibre To The Node



Construction has commenced on 2,000 nodes covering more than 400k premises. Once critical capabilities are in place, enables **nbn** to rapidly increase speed of rollout.

Vectoring can deliver wholesale peak speeds* of up to 100 Mbps depending on copper distances.

Technology Choice program



Program set up for interested individuals, local governments and communities who wish to apply for a change to their network infrastructure. Eligible applicants can select an alternate technology solution by paying the incremental cost of the change.

HFC - Hybrid Fibre / Coaxial



Plans are underway to conduct trials on existing Telstra and Optus HFC networks. Full rollout is estimated to cover approximately four million premises across five mainland capital cities.

DOCSIS 3.1 tests in the USA suggest wholesale peak speeds* of up to 1Gbps download and 100Mbps upload.

Upgrade paths



Trials underway for alternative technologies that improve wholesale peak speed, capacity and/or reduce installation costs.

* Please see Disclaimer on page 11.

Regional Australia - leap into the digital future

Bridging the digital divide, becoming a reality in the next 3 years.

The majority of the network for rural, remote and isolated communities is planned for completion by 2018:

Satellite



First satellite planned launch in H1-FY16, with the second in H2-FY16.

Covering more than 400k premises, targeting rural, remote and isolated communities.

Significant step up from Interim Satellite Service (ISS).

Fixed Wireless



Tower build largely completed by 2018.

Covering ~590k premises by the end of the rollout to augment coverage beyond fixed line outside of densely populated centres.

Product offerings up to 50Mbps wholesale peak speed*.

* Please see Disclaimer on page 11.



Revised strategic deals with Telstra & Optus

Enable **nbn** to roll out in a faster timeframe at a lower cost, while maintaining future flexibility

Faster rollout of the **nbn**TM network

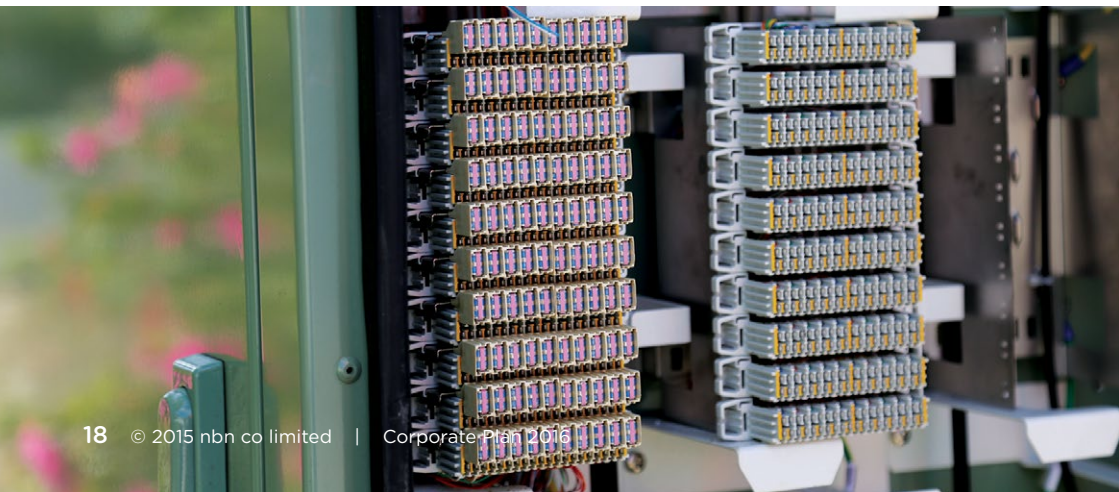
- » ability to utilise existing copper and HFC connections to the home
- » specifically, **nbn** has the ability to acquire copper cables between the pillar and the premises in FTTN areas and progressively acquire certain HFC network assets
- » interim access arrangements, for example FTTB
- » following a high level desktop analysis, management estimates the rollout completion to be six to eight years faster than a full FTTP rollout in the fixed line footprint.

Lower cost to deliver the **nbn**TM network

- » MTM strategy is to deliver high-speed broadband by leveraging existing networks where possible to reduce costs
- » following a high level desktop analysis, management estimates that the MTM strategy delivers savings of ~\$20-\$30bn when compared to a full FTTP rollout in the fixed line footprint.

Future flexibility

- » allow **nbn** to optimise rollout taking into account availability of technology
- » option to upgrade FTTN network to other technologies in the future.





Strong industry – reliable partners for progress

Building, upgrading and maintaining Australia's broadband network requires a strong industry, with effective engagement from the **nbn** team.

A multitude of players support design and construction, activations and assurance, IT and planning:

- » Delivery Partners (DPs) engaged in new master contracts for design and construction, with simpler requirements, longer-term commitments and mechanisms
- » to reward high performance with volume increases and new work areas
- » market skills availability tested and impelled to ensure construction and telecommunication skills are available for **nbn** and DPs to hire required workforce
- » predictability & reliability: 12 quarter integrated deployment plan (IDP) creates increased certainty and predictability, enabling DPs to invest in growth and productivity.

Retail service providers (RSPs)

A strong assembly of RSPs is bringing exciting retail propositions to Australians:

- » the **nbn™** network rollout now hitting scale, with accompanying RSP national TV advertising
- » strong competition with more than 50 RSPs driving exciting offers for consumers and businesses
- » Integrated Product Roadmap bringing new capabilities to market.



Businesses



Residential

WOW EASY NBN

IT'S HOW WE CONNECT

GREAT DEALS AVAILABLE

TELSTRA MAKES CONNECTING TO THE NBN SIMPLE

We will help you every step of the way: from organising the installation of the NBN box outside of your home, to ensuring your home Wi-Fi is all working smoothly.

Connect us today to find out more.

iinet

Get Netflix quota-free with an eligible iinet Broadband or NBN plan.

Fixed Line Broadband and NBN Fibre only.

OPTUS

ENJOY UNLIMITED NBN-ENTERTAINMENT IN BALLARAT!

\$90 PER MONTH

WAS \$145

PLUS GET A MONTHLY REFUND

UNLIMITED ADSL2+ Local Calls Unlimited + STD National Calls Unlimited + International 100 Minutes

HOME PHONE LINE RENTAL

\$69.99 MIN CHARGE \$1,788

NBN - HOMEPHONE BUNDLES

Improving operations

nbn is more than a project, it is a business.

Investing in operational excellence capabilities to enable great broadband outcomes, fast, and at lowest cost:

- » connecting customers – SCO issues being aggressively resolved, scaling up operations to meet speed of rollout and RSP demand
- » new IT capabilities released and/or in development
- » business process re-engineering enables improved cycle times, lower costs and higher outcomes
- » new planning infrastructure enables more confident forecasting of rollout and financial performance
- » Procurement and Supply Chain transformation support rollout and activations activities and cost savings
- » improved security practices lower risk of business exposure
- » health, safety & environment continues to be a primary focus.



People who deliver progress

Being the best place to work means a brand new way of working.

Cultural transformation of **nbn** is at the heart of delivering access to high-speed broadband to all Australians:

- » new leadership with ongoing investment in leadership competencies
- » talent development reinvigorated
- » recruiting and on-boarding processes upgraded.



Chairman and CEO's message

This plan lays a solid foundation to enable every home, business and community across Australia to receive high-speed broadband, including our goal of eight million activated premises by 2020. It is based on detailed strategic reviews, financial analysis and integrated operational planning.

First and foremost, it recognises that Australia's largest infrastructure project is of unprecedented scale and complexity, and that in order for the company to meet its goals, the next three years will require a step change in operational performance. The rollout of Australia's broadband network will move from linear growth to exponential growth. We are working to achieve this plan so that, by the end of FY18 **nbn** will have:

- » 9.1 million premises RFS (~76% of total footprint) across five different technologies
- » 4.4 million premises activated.

While there are significant risks in scaling up, **nbn** continues to make notable progress:

- » construction delivery contracts and establishment of a new volumetric operating platform
- » FTTN construction trials for more than 400k premises in partnership with Telstra and other DPs
- » new leadership, and a cross-company effort to create a high-performance culture.

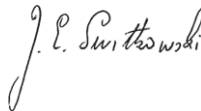
At the same time, the company is transforming rapidly and momentum is growing:

- » the FTTP rollout has scaled to ~1,500-2,000 premises RFS per day and ~1,300 activations per day
- » MTM now in market with FTTB product launched in March 2015
- » FTTN on track for launch in H1-FY16
- » HFC on track for launch at the end of H2-FY16
- » long term satellite commercial launch scheduled for H2-FY16.

This plan lays the foundation for every Australian to be able to benefit from high-speed broadband and participate in the emerging digital economy.

The Board and management are committed to the success of **nbn**.

Dr Ziggy Switkowski AO
Chairman



Bill Morrow
Chief Executive Officer



Under new management

Experienced leadership team behind **nbn**



Bill Morrow

Chief Executive Officer

Appointed in December 2013, effective April 2014

Mr Morrow is well known for his global experience in leading complex turnarounds and as one of the global telecommunications industry's most experienced executives.

Prior to **nbn**, he served as CEO of Vodafone Hutchison Australia in Sydney and CEO of Clearwire Corporation in Seattle.



Stephen Rue

Chief Financial Officer

Appointed in July 2014

Prior to joining **nbn**, Mr Rue spent 17 years in various leadership roles at News Corp Australia including a decade as Chief Financial Officer.

He also served as a Director on a number of associated boards including Foxtel, Fox Sports, REA Group and Australian Associated Press.



John Simon

Chief Customer Officer

Appointed in January 2013

Mr Simon is an established executive in the converged ICT market, with more than 30 years experience.

Prior to joining **nbn**, Mr Simon spent the last 11 years working for Singtel Optus in various roles.



Brad Whitcomb

Chief Strategy and Transformation Officer

Appointed in May 2014

Mr Whitcomb has successfully architected a number of high-profile business transformations in the telecommunications and energy sectors.

Prior to joining **nbn**, Mr Whitcomb was the Chief Strategy and Business Transformation Officer at Vodafone Hutchinson Australia.



Greg Adcock

Chief Operating Officer

Appointed in November 2013

Mr Adcock was previously Executive Director of NBN and Commercial Operations at Telstra where he spent the past 20 years.

His previous roles at Telstra include strategy and business planning, contract establishment and operational process optimisation.



Maree Taylor

Chief People and Culture Officer

Appointed in May 2014

Ms Taylor is an experienced Human Resources professional with more than 25 years of corporate and consulting/coaching experience.

Prior to **nbn**, Ms Taylor held senior executive roles including Head of Human Resources at Origin, CSC Australia, and Apple Asia Pacific.

Under new management

Experienced leadership team behind **nbn**



JB Rousselot

Chief Network & Service Operations Officer

Appointed in October 2013

Mr Rousselot brings to the business extensive experience in the telecommunications sectors.

He has previously held senior roles at Telstra including the Executive Director of Voice, BigPond and Media.



Justin Forsell

Chief Legal Counsel

Appointed in March 2010

Mr Forsell is an experienced legal practitioner with more than 18 years in-house experience.

Prior to joining **nbn**, Mr Forsell was General Counsel, Company Secretary and Head of Governance at Vodafone Australia.



John McNerney

Chief Information Officer

Appointed in December 2012

Mr McNerney is an experienced technology practitioner with more than 20 years experience.

Prior to **nbn**, Mr McNerney was Vice President at HP across Asia Pacific and Japan and Group CIO at Telstra where he led one of the largest technology transformation projects in Australia.





Part B

Corporate Plan



1. Corporate plan summary statement

In 2009, nbn co limited (**nbn**) was established to build and operate Australia's broadband network, Australia's first ever national, wholesale-only, open-access broadband network. **nbn**'s key objective is to ensure all Australians have access to very fast broadband as soon as possible, at affordable prices, and at least cost to taxpayers. To give greater clarity to the program, the Government has set out a Statement of Expectations dated 8 April 2014 (**SOE**), which provides, amongst other things, that:

- » to minimise cost and increase speed of deployment, the rollout should allow for a “mixed-technology model”, as identified in the **Strategic Review** dated 12 December 2013
- » the **nbn**TM network is intended to be a wholesale-only access network, available on equivalent terms to all access seekers
- » the design of the **nbn**TM network will be guided by the Government's policy objectives of providing access to download data rates of at least 25 megabits per second (**Mbps**) to all premises and at least 50 Mbps to 90% of fixed line premises as soon as possible
- » **nbn** has flexibility and discretion in operational, technology and network design decisions, within the constraints of a public equity capital limit of \$29.5 billion.

The Strategic Review conducted by **nbn** estimated that deployment of Australia's broadband network using the multi-technology mix (**MTM**) approach could be completed by 2020 with peak funding (equity and debt) estimated to be \$41 billion (of which \$15 billion was already committed as of November 2013).

This Corporate Plan (**Corporate Plan** or **plan**) is based on detailed strategic reviews, financial analysis and integrated operational planning, done with the benefit of additional time and experience. This plan supersedes the previous Strategic Review and subsequent forecasts presented to the Shareholder Ministers.

Due to considerable changes in the market and intensifying technological innovation, the company is faced with new challenges in the build out and monetisation of the **nbn**TM network. This plan aims to address these challenges while meeting expectations.

Management has prepared a cross-functional Operating Plan that seeks to address the known challenges, execution fronts and interdependencies facing the implementation of Australia's broadband network. Deployment of the MTM approach is at nascent state, with two critical network technologies yet to be launched at scale. This is exacerbated by multiple variables related to execution, time, cost, and revenue associated with an infrastructure project of this scale

and complexity. The Operating Plan, which is the basis for the Corporate Plan, has produced a potential peak funding range between \$46 and \$56 billion, with a base case of \$49 billion.

The base case also targets completion of the **nbn**TM network by 2020.

See key operational and financial metrics in the table below:

Table 1: Key operational and financial metrics

	FY15(A)	FY16	FY17	FY18
\$ billions (unless otherwise stated)				
Premises RFS (millions)	1.2	2.6	5.4	9.1
Premises activated (millions)	0.5	1.0	2.3	4.4
Revenue	0.2	0.3	0.8	1.7
Operating expenses ¹	(1.6)	(2.4)	(3.4)	(4.6)
EBITDA¹	(1.5)	(2.1)	(2.6)	(2.9)
Capital expenditure	(3.3)	(4.9)	(5.4)	(5.0)
Contingency	-	(0.5)	(0.8)	(1.2)
Interest and Working Capital	-	(0.3)	0.2	(0.6)
Cashflow	(4.8)	(7.8)	(8.6)	(9.7)
Cumulative funding	13.2	21.0	29.6	39.3

Note

1. Operating expenses and EBITDA are non-GAAP measures. For corporate planning and internal reporting purposes, management treat certain payments for leasing assets as operating expenses. For statutory reporting purposes in quarterly and annual reporting, these payments are treated as finance leases and accordingly are capitalised and amortised over a 35 year period.

1. Corporate plan summary statement

Continued from page 31 ►

While the operational and financial forecasts represent current best estimates, these projections are underpinned by multiple and significant uncertainties, risks and challenges that need to be understood. Critical assumptions on scope, cost and timing are based on high level estimations of activities that still need to be proved in practice.

In preparing this plan, management has analysed and assessed the most significant challenges and the potential impact that they might have on both the rollout schedule and peak funding requirements. These challenges can be grouped in five main themes:

1. **capacity and capability to deal with the scale, scope and complexity of the plan:** the ability to manage the process complexity, resource contention and speed to maturity required to overcome the multiple simultaneous challenges of deploying commercial service over new FTTN and HFC networks as well as the new Long Term Satellite Service (LTSS) network, in addition to scaling the existing FTTP and FW businesses
2. **deal implementation:** successful implementation of the Revised Telstra Definitive Agreements and Revised Optus Agreement and development of the critical skills to manage these networks
3. **rollout and activations:** set-up, up-skilling and management of DPs for both FTTN and HFC to ensure there is no industry-wide shortage of capacity and capabilities across Australia. The timely delivery of IT and network releases to support multiple technologies is also a critical challenge, as is RSP readiness (operationally and commercially) to sell and serve end-users at scale
4. **revenue realisation:** achievement of target Average Revenue Per User (ARPU) and penetration rates, while managing competitive dynamics. Revenue may also be adversely impacted if copper quality leads to service degradation
5. **unknowns:** there is uncertainty around certain cost drivers, the actual size of the footprint, and potential adverse events or developments that may disrupt the operational or financial progress of the project.

Where feasible, these challenges have been assessed and modelled to understand overall impact to delivery timing and peak funding. This modelling has been used to inform the range of the Corporate Plan.





2. Aspiration, strategic imperatives and performance to date

2.1 Background and aspiration

In 2009, the Government of Australia announced the creation of a wholesale-only, open-access communications network aimed at delivering high-speed broadband and telephony services to the nation. The Government formed a Government Business Enterprise and, in December 2010, released the first SOE which articulated the objective *“...to deliver significant improvement in broadband service and quality to all Australians, address the lack of high-speed broadband in Australia, particularly outside of metropolitan areas, and reshape the telecommunications sector.”*

The new Government elected in September 2013 triggered **nbn** to conduct a Strategic Review. The Strategic Review identified an optimised MTM approach that balances the rapid deployment of 50 Mbps broadband at the lowest cost, to the highest number of Australians.

2.2 Strategic imperatives

The ultimate purpose of **nbn** is to connect all Australians to broadband, bridging the current digital divide between Australians, and between Australia and other advanced economies worldwide. Its goal is to activate eight million homes and businesses by 2020. In order to fulfil this goal, **nbn** has five strategic imperatives, with specific measures of success: make **nbn** “a great place to work”; build a united partnership (with vendors, DPs and RSPs); build affordable products and services; build a high performance, reliable network; and build effective and efficient processes and systems.

2. Aspiration, strategic imperatives and performance to date

Continued from page 35 ▶

2.3 Performance to date and objectives ahead

The performance of **nbn** in its early years was uneven, with repeated missed targets and re-stated expectations. Progress since the Strategic Review has been positive with a significant improvement in FTTP deployment, RSP and end-user experience, brand image and achievement of primary financial and operational targets.

FY15, operational performance highlights include:

- » total premises RFS (excluding satellite): 1,165k, almost double the premises RFS by June 2014
- » total premises activated: 486k, more than double the premises activated by June 2014
- » penetration rate: 38% overall of premises or lots RFS
- » revenue and ARPU: \$161 million in telecommunications revenue, with a monthly ARPU of \$40
- » RSPs: actively engaging 52 RSPs.

However, going forward, a significant step change in performance will be needed if **nbn** is to fulfil its objectives in the timeframe and within the peak funding envelope. The organisation faces several challenges across multiple dimensions, some of which were referred to in the Strategic Review, including the scale and scope of build, activation and delivery; an underdeveloped organisational capability and processes; a strong regulatory environment; and public scrutiny. These challenges are described in more detail in the risk section of this document.

To put these challenges into perspective, by the end of FY18 the organisation will need to:

- » design, build and deliver 9.1 million premises RFS (peaking at six times the yearly volume of FY15)
- » activate 4.4 million homes and businesses (peaking at seven times the yearly volume delivered in FY15)
- » deploy and integrate the new FTTN, HFC and LTSS technologies, in addition to continuing the deployment of the existing FTTP and FW technologies
- » create a suite of products and services to address both the business and multi-dwelling unit markets
- » integrate and maintain legacy copper and HFC network assets from Telstra and Optus, of which the organisation has limited experience and limited information (e.g. quality of Telstra's copper network)

- » significantly increase the number of technicians from the DP ecosystem across very different skill sets (e.g. copper jointers, HFC specialists)
- » coordinate with multiple RSPs, and drive increases in ARPU for residential services via higher speed tiers and effective migration pricing
- » deliver multiple successful IT releases to support the activity required
- » lead and grow the organisation to manage the critical construction period, while transitioning the company to a primarily network operations business.

There are many critical interdependencies between these and other activities that will need to be managed and delivered in parallel, particularly during the course of the next three years.

The mandate presents a unique challenge—an unprecedented project of scale, scope, speed and complexity. To properly address it, management has built a cross-functional, integrated Operating Plan that identifies interdependencies, challenges and execution fronts. To the extent possible, the Operating Plan seeks to fill the gaps in planning that the Strategic Review called out as causing the historical financial and operational under-performance of the company.

2. Aspiration, strategic imperatives and performance to date

Continued from page 37 ▶

2.4 Statement of Expectations (SOE)

The objectives for **nbn** are set by the Shareholder Ministers in a document referred to as a Statement of Expectations (SOE), which is supplemented from time to time by policy directives and correspondence. The SOE was revised on 8 April 2014, outlining the Government's commitment to complete the **nbn**[™] network and ensure all Australians can access very fast broadband as soon as possible, at affordable prices and at least cost to taxpayers.

This plan is compliant with the SOE. It defines a path to completing the **nbn**[™] network rollout and ensuring all Australians have access to very fast broadband as soon as possible, at affordable prices, and at least cost to taxpayers. It does this within a public equity capital limit of \$29.5 billion, as a wholesale-only access network, available on equivalent terms to all access seekers, operating at the lowest practical level of the network stack (layer 2).

Strategic MTM planning

The strategic MTM planning approach determines which technologies are utilised on an area-by-area basis so as to minimise peak funding, optimise economic returns and enhance the viability of **nbn**. The **nbn**[™] network is designed so that RSPs will be able to access wholesale peak speeds of 25 Mbps download data rates at all premises and of 50 Mbps or greater in 90% of the fixed line footprint¹.

Future upgrade paths are available for access technologies. A rollout area prioritisation approach has also been designed to comply with the Government's policy objectives to prioritise underserved areas. The multi-technology deployment principles were published in November 2014, outlining the use of the existing HFC networks and approach to Fibre To The x (**FTTx**) technologies. This plan sets out management's latest view of the capabilities required to implement the MTM approach.

Modelling continues to be revised as data becomes available from Telstra and Optus and from the operational experience of rolling out the new technology (for example, issues like copper rehabilitation).

1 Please see Disclaimer on page 11

The most recent modelling recommends the following:

Table 2: Multi-Technology Mix of Premises

	End of Rollout (2020) (M)	End of Rollout - % of Total
Technology		
FTTP	2.4	20%
FTTN/B	4.5	38%
HFC	4.0	34%
Fixed Wireless	0.6	5%
Satellite (LTSS)	0.4	3%
Total Australia	11.9	100%

2.5 MTM compared to an all-FTTP rollout

At the request of Government, management has prepared a high level desktop analysis, not to the same level of detail as the Operating Plan, to update an assessment of an all-FTTP fixed line deployment scenario as an alternative to the current MTM approach. This was done in the light of significant new information, experience and market knowledge accumulated since the Strategic Review in December 2013. This takes into account historical and current cost per premise, network architecture changes identified in the Strategic Review to lower costs, changes to industry engagement and service delivery contracts, achievable peak construction rates, competitive threats from alternative networks and technologies, and cumulative cost forecasts for ongoing network operations.

The high level analysis has enabled management to confirm that despite higher than anticipated cost and risk, MTM remains a superior strategy to an all-FTTP rollout for fixed line areas. Management estimates that an all-FTTP fixed line rollout could be completed by 2026 but possibly as late as 2028, with a peak funding range of \$74-84 billion (vs. \$46-56 billion for MTM) depending on critical sensitivities around peak construction rates, construction and operating cost, and revenue generation.

First positive free cash flow is estimated to be achieved between FY26 and FY31 for an all-FTTP fixed line rollout (vs. FY22 for MTM).

Additional disclaimer: management and the Board do not give any guarantee or assurance that the results, performance or achievements expressed or implied by the outlook will actually occur. The Operating Plan addresses the period FY15-FY22 only, Management and the Board have not taken a view on assumptions beyond that time, and no better estimates exist than the assumptions applied in the Strategic Review dated December 2013.

3. Market environment

The telecommunications market is inherently dynamic, as technological innovation delivers continuous change in consumers' needs and expectations. Fast and reliable broadband access is evermore a primary need, as wide-spanning services become available to end-users. Attesting to this observation is the exponential growth in internet traffic at global scale.

Despite the latent demand for faster broadband, some challenges might arise in the monetisation of Australia's broadband network. More traffic has historically not always translated into more revenue, and competition could intensify from both mobile service providers and alternative fixed providers. Regulation is also an important consideration to the extent that it affects **nbn's** business decisions.


The low price-elasticity of broadband services, combined with the disruption of adjacent industries (such as media distribution), is expected to contribute to expanding the share of wallet of the telecommunications industry and sustaining a growing ARPU.

3.1 International broadband market trends

The international broadband market continues to evolve at a fast pace. The Federal Communications Commission (FCC) in the United States of America has redefined advanced broadband as 25 Mbps in January 2015, raising the bar on the minimum offering on the back of consumer demand and multi-device proliferation. Average download speeds continue to show significant growth (~30% p.a. in the US and UK)². However, it is mostly paired with price decreases as retailers strive to increase market share, driving flat retail ARPUs.

Operators worldwide are embracing technology evolution to enable bandwidth growth. In each case, these leading international operators are leveraging their existing technology platforms to meet the evolving customer requirements for high-speed broadband. Recent examples include:

2 Ofcom, FCC, Sandvine

- 
- » BT added G.fast to its technology roadmap, with a trial 4,000 premises to proceed this year. BT believes it will be able to provide 500Mbps services to most UK homes over the next 10 years. But it is also confident it will be able to support services of up to 1Gbps for more demanding customers³
 - » Virgin Media announced the first major expansion of an HFC network in a mature market in more than a decade, launching a GBP3 billion (-A\$6 billion) project to expand coverage by 4 million homes to 17 million. During 2014 Virgin's parent Liberty Global delivered faster speeds across its European footprint with the deployment of DOCSIS 3.0⁴
 - » Deutsche Telekom outlined its ambitions to expand high-speed broadband coverage from 44% (2014) to ~80%, utilising super vectoring (up to 250Mbps) in the cable footprint⁵
 - » Telecom Italia Group 2015-2017 strategic plan calls for an investment of EUR2.9 billion in the development of the network including EUR2.4 billion in technologies such as FTTH and FTTB, and EURO.5 billion in FTTP⁶.

3 <http://home.bt.com/news/bt-life/bt-ceo-sets-out-ultrafast-broadband-vision-11363958493131>

4 13-Feb-2015 <http://about.virginmedia.com/press-release/9467/virgin-media-and-liberty-global-announce-largest-investment-in-uks-internet-infrastructure-for-more-than-a-decade>

5 <http://www.telekom.com/cmd15>

6 <http://www.telecomitalia.com/tit/en/archivio/media/comunicati-stampa/telecom-italia/corporate/economico-finanziario/2015/2015-2017-strategic-plan-approved.html>

3. Market environment

Continued from page 41 ▶

3.2 Australian market environment

Australian broadband market trends

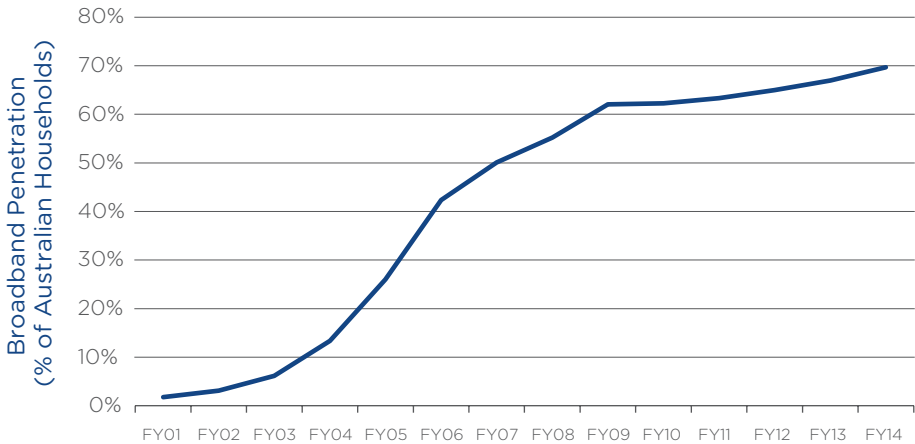
Fixed broadband is showing strong growth in Australia, both in terms of subscribers and traffic. Demand is expanding due to new subscription video services, adoption of 4K streaming, and increasing number of connected devices per household.

Looking ahead:

- » Australia's fixed broadband household penetration is forecast to grow to 80% by 2019 from 72% at December 2014⁷
- » retail broadband pricing is stable with some projected increases through expansion of data consumption⁸.

In addition, as the network rollout progresses, **nbn** will explore new revenue opportunities that are likely to emerge.

Exhibit 4: Historical Australia broadband penetration⁹



7 ABS Household Data (3236); **nbn** analysis

8 Feb-2015, ACCC - Changes in the prices paid for telecommunications services in Australia 2013-14

9 ABS Household Data (3236); **nbn** analysis

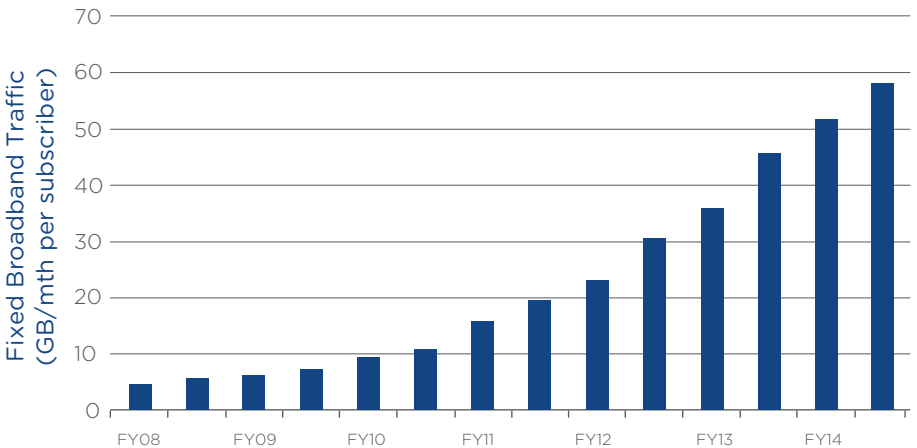
Despite the positive outlook, revenue opportunities might be constrained due to:

- » the challenge in consistently growing long term ARPU given historical trends of flattening or declining ARPU. However, low price-elasticity of broadband services, combined with the disruption of adjacent industries could sustain ARPU growth
- » emerging infrastructure competition from alternative fixed line deployments targeting the most profitable geographies tempered by recent level playing field / carrier licence conditions, and potentially by a new industry

levy mechanism, to be funded by all fast broadband operators, currently being considered for non-commercial services

- » expanding wireless coverage and capacity, e.g. Telstra’s 4GX (speeds up to 450Mbps) and 4G expansion to 94% of the population by mid-CY15¹⁰, or Optus’ indication that up to 98MHz of spectrum in the 2300MHz band will be used for fixed line substitution¹¹. In the medium term, 5G is gearing up for a 2020 launch. However, despite recent market developments around 4G coverage and capacity in 2014, mobile traffic has remained stable at only 7% of total internet traffic¹².

Exhibit 5: Historical Australia fixed broadband traffic¹³



10 Telstra Investor Day presentation April 2015

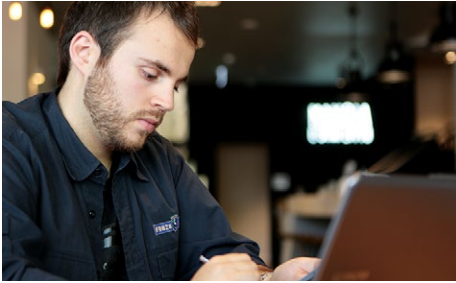
11 Optus CEO Allen Lew interviewed by CommsDay (10 March 2015)

12 ABS Internet Activity (8153); nbn analysis

13 ABS Internet Activity (8153); nbn analysis

3. Market environment

Continued from page 43 ▶



Australian broadband regulatory environment

The Australian telecommunications regulation raises additional challenges for **nbn**:

- » potential limitations on pricing flexibility, in circumstances where **nbn** bears significant investment risk
- » risks of potential policy or regulatory changes adversely affecting the achievement of **nbn's** revenue projections
- » ongoing uncertainty while the Government implements the balance of policy changes and decisions flowing from the Vertigan Review
- » uncertainty as to the extent of competition **nbn** will face, in circumstances where **nbn** is subject to more regulatory constraints or requirements than its competitors
- » regulatory approval processes of considerable complexity must be completed to implement MTM.

3.3 Imperative for rapid national rollout

Australian average download speeds have increased significantly since the inception of the **nbn**, driven in part by **nbn**TM network connections, but also investment by incumbents: over the past five years average download speeds have increased from 6.0 Mbps to 16.6 Mbps (to February 15). Average upload speeds have increased fivefold in the same period¹⁴.

However, Australia's position compared to international peers remains unchanged¹⁵. The pace of improvement needs to speed up significantly if Australia is to sit higher on the overall list and become a more attractive digital economy. Therefore, Government-led investment in broadband remains critical to address the digital divide, particularly in rural and remote areas.

A rapid national rollout is also important for commercial purposes, as speed is essential to compete against alternative fixed line players and to minimise short to medium term substitution between fixed and wireless technologies.

¹⁴ Netindex

¹⁵ Akamai's State of the Internet report



4. Operating Plan

Management has prepared a cross-functional Operating Plan that seeks to create an achievable plan, with full knowledge of known challenges, execution fronts and interdependencies facing the implementation of Australia's broadband network.

Given the nascent state of the MTM deployment (with two critical network technologies yet to be launched at scale), and the multiple variables related to execution, time, cost, and revenue associated with an infrastructure project of this scale and complexity, the Operating Plan is an estimate and likely to evolve over time.

4.1 Product, customer & marketing strategy

The revenue strategy has a significant role to play in maximising long term value within **nbn's** universal access mandate and regulatory framework.

Wholesale product construct

nbn offers a uniform, nationwide set of wholesale layer 2 Ethernet capabilities on which RSPs can build their retail offers. A consistent product set across **nbn's** multiple access networks reduces system and process complexity for both **nbn** and RSPs, and enables RSPs to sell a uniform nationwide retail offering.

4. Operating Plan

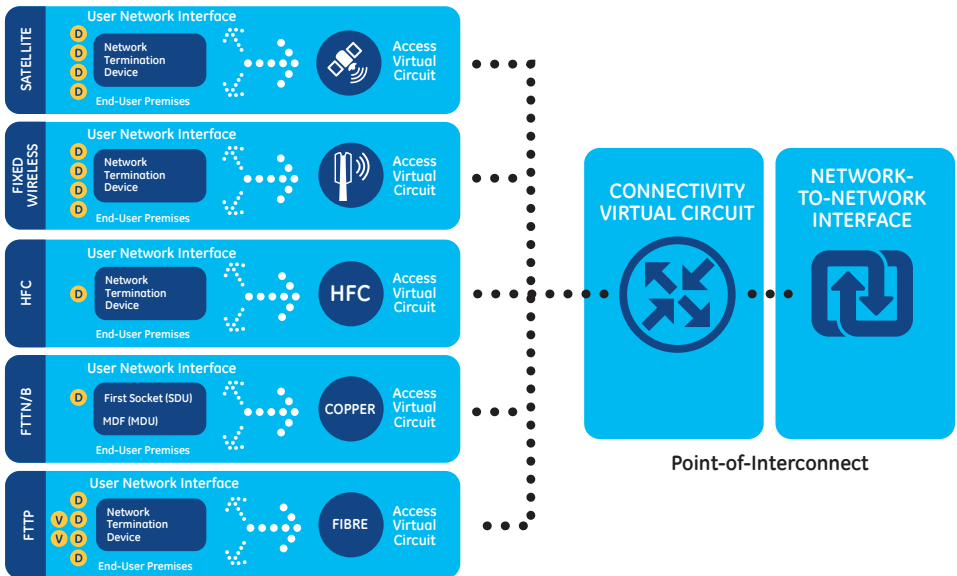
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The **nbn™** product range also includes a range of features that gives RSPs the flexibility to design specific retail offerings for different market segments. In addition to the headline wholesale speed* tiers that start at 12/1 Mbps, **nbn** also offers a range of traffic class and service level options that RSPs can use to target higher value business segments.

The end-to-end **nbn™** product construct is made up of two components:

- » access components: The User Network Interface (**UNI**) and Access Virtual Circuit (**AVC**) – provisioned for each premises and dimensioned based on the speed required by that premises
- » connectivity components: The Connectivity Virtual Circuit (**CVC**) and the Network-to-Network Interface (**NNI**) – provisioned on an aggregate basis across all premises in an area associated with a specific Point of Interconnect and dimensioned based on the Service Provider’s network contention strategy.

Exhibit 6: Product Construct



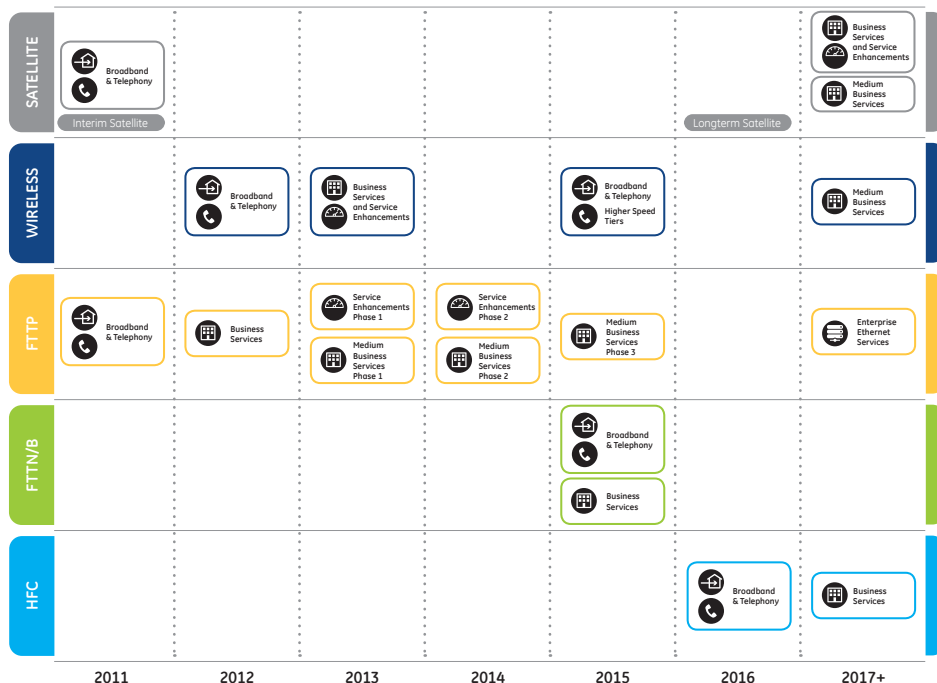
Product Roadmap

nbn maintains an integrated product roadmap which sets out the expected product development path over the next three years. The aim of the

integrated product roadmap is to incorporate Service Provider feedback into the prioritisation of proposed product and feature releases.

* Please see Disclaimer on page 11.

Exhibit 7: Overview of nbn™ product release roadmap



To complement the FTTP, Fixed Wireless and interim Satellite technologies in market, **nbn** has recently released:

- » FTTB product release: enables Service Providers to build their core broadband and telephony products for FTTB premises
- » Technology Choice: enables groups of premises to co-fund the construction of an alternative access technology in an area, e.g. FTTP instead of FTTN, **nbn** has commenced industry consultation on a related offering for individual premises

- » MTM business services consultation: commenced industry consultation on the feature set and availability of business services over the MTM access networks.

Products planned to be released by **nbn** in CY2015 and CY2016 include:

- » FTTN product release: release of the foundation product offering for FTTN (broadband, telephony and business features). This release is expected to include wholesale access speed* tiers from 12/1 Mbps up to 25-100/5-40Mbps

* Please see Disclaimer on page 11.

4. Operating Plan

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- » HFC product release: release of the foundation product offering for HFC (broadband, telephony and initial business features). This release is expected to include wholesale access speed* tiers from 12/1 Mbps up to 100/40 Mbps
- » Satellite product release: release of the foundation product offering for Satellite (broadband and telephony features). This release is expected to include wholesale access speed* tiers from 12/1 Mbps to 25/5Mbps.

Customer/end-user strategy

The product and pricing strategy aims to support the overall mission by sustainably maximising revenues to strengthen financial performance and recover the significant cost of building and operating the **nbn**TM network. This strategy is underpinned by three fundamental segments: residential segment, business segment and other revenue streams. For further details see the exhibit below:

Exhibit 8: Customer/end-user strategy

Ambition	Sustainably maximise revenue to strengthen nbn's financial performance					
Market	Residential segment		Business segment		New revenue streams	
Strategy	<i>Maximise residential revenue through early, high take-up of high-speed tiers</i>	<i>Capture attractive revenue through quick activation & product customisation</i>	<i>Sweat existing assets; new products, endpoints and customers</i>			
	Footprint	Value Proposition	Product	Pricing	Marketing	Channel
	<ul style="list-style-type: none"> • Quick footprint build • Business premises connection • Large, contiguous areas launch • Demographics focus 	<ul style="list-style-type: none"> • End-user <ul style="list-style-type: none"> - Affordability - Speed - Choice - Ubiquity - Innovation - Reliability - Ease • Customer <ul style="list-style-type: none"> - Footprint - Contestability - Returns - Uniformity - Automation 	<ul style="list-style-type: none"> • Consistent product construct • One product with many levers <ul style="list-style-type: none"> - Speed tiers - Contention - Right-fit technology • Additional business product value-add <ul style="list-style-type: none"> - Traffic classes - Service levels 	<ul style="list-style-type: none"> • Two-part architecture to manage risk and capture upside • Stimulate usage growth, encourage RSP and end-user behaviour 	<ul style="list-style-type: none"> • Monetisation of visionary brand • Cooperative marketing strategy <ul style="list-style-type: none"> - Incentive programmes • Engage key stakeholders <ul style="list-style-type: none"> - Community orgs • Optimise end-user messaging 	<ul style="list-style-type: none"> • Healthy competition support <ul style="list-style-type: none"> - 'Big 5' - Challengers - New entrants - Industry-agnostic aggregators • RSP economics • Efficient systems and processes

Revenue drivers

Revenue is expected to grow from \$164 million in FY15 to \$1.7 billion in FY18, a 10 fold increase, representing a doubling of revenue every year. The forecast is based on a set of key assumptions:

- » average monthly ARPU for residential and business is expected to grow from \$40 in FY15 to \$44 by FY18
- » take-up rate across residential and business areas to be at 49% in FY18, growing to a long term target of 73%.

* Please see Disclaimer on page 11.

ARPU

The main drivers for the estimated growth in ARPU are:

- » increasing wholesale speed tiers: demand for higher speed bandwidths is expected to increase, pushing up AVC ARPU
- » increase in volume: continued double-digit growth in volume through changed consumer behaviour (e.g. new subscription video services, 4K streaming, devices per household, etc.) and higher speed tiers is delivering significant upside for CVC. For further details, please refer to the market environment section
- » business products, driven by micro and small business segments, as they are the business segment most underserved by current players.

This ARPU growth is consistent with RSP economics and end-user price-elasticity.

Take-up rate

In the long term, overall Australian market penetration of fast broadband speeds is forecast to grow to 73% This is constrained by:

- » take-up of mobile only products (estimated ~15% of premises, mainly for groups with low traffic needs and high mobility needs)
- » vacant premises (estimated ~8.5% of premises, assuming that ~40% of holiday homes will have a **nbn** connection)

- » fibre alternatives (estimated ~1.5% of premises, based on existing fixed line alternative fibre RFS footprints).

Relaunch of the brand



In April 2015, **nbn** launched a new brand positioning. The new proposition is aimed at repositioning the benefits of high-speed broadband and defining **nbn** as an innovative force in the market. The rebrand efforts also support RSP efforts in customer acquisition on **nbn** based products through the coming years. The objective is to continue to build positive perceptions about **nbn**, with the long term goal of driving take-up rates and expanding revenues.



In May 2015, **nbn** unveiled its first advertising campaign since the company's recent brand repositioning. The campaign, which includes TV, corresponds with an expanding rollout footprint.

4. Operating Plan

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4.2 Network deployment

FTTP

Overview

The FTTP program has delivered 327k RFS Brownfield premises and 77k RFS Greenfield premises for FY15.

For the Brownfields FTTP program, the FY16 objective is to maintain an aggressive and predictable throughput of premises, while seamlessly transitioning to an MTM environment. The FTTP program has started to mature following a significant investment in time and resources, stabilising to meet its delivery targets over the last three quarters.

For the Greenfields FTTP program, the aspiration is to transform from the provider of 'last resort' to one of 'first choice'. The program is currently preparing for Government policy that will enable infrastructure-based competition.

A fibre on demand product (Technology Choice) has been made available and is open for public application.

Critical path and milestones

Overall, the challenges associated with FTTP are relatively well known and operational in nature, given the program's level of maturity.


The FTTP plan towards FY16 has been designed to achieve rollout targets, by defining key milestones and identifying interdependencies.

FTTN/B

Overview

FTTN/B is the first program under MTM to launch an alternative fixed broadband technology to FTTP. The FTTN/B program launch occurs in three phases: 1) launch of services over the FTTB network in March 2015; 2) initial launch of services over the FTTN network; and 3) scaled rollout of the FTTN network and service delivery. Successful product launch and scaling of FTTN/B deployment relies on several critical dependencies, including the industry readiness of DPs or other third parties involved.

The FTTN program's objective in FY15 was to develop business capabilities to enable the design, development, deployment, launch and operation of the FTTN solution. There are construction trials currently underway with Telstra and several DPs covering the design and construction of ~2,000 nodes (~400k premises). These trials will provide insight on process, standards, tools, third party delivery capability, scalability and turnkey governance arrangements.



The FTTB product launch occurred in March 2015. The results achieved in the FTTB pilot were satisfactory with average download speeds of 89 Mbps and upload speeds of 36 Mbps*. FTTB will provide the technical solution capability to also address high-value MDUs which will contribute to the long-term competitiveness and profitability of **nbn**.

Critical path and milestones

The critical next steps in the short-term are:

- » embedding the new operating model with DPs
- » release of network information from Telstra
- » development of an IT platform to support the launch
- » onboarding of delivery partners to start the build program
- » first end-user in the construction trial areas to be connected in H1-FY16
- » readiness of the **nbn**TM network's field force to activate and assure premises
- » first end-user in non-construction trial areas is expected to be connected in H2-FY16.

Disclaimer:

* **nbn** provides services to its wholesale customers, telephone and internet service providers, and does not provide services directly to end-users. These speeds were achieved by end-users in the context of a trial and are not necessarily reflective of the speeds that will be experienced by end-users. End-user experience including the speeds actually achieved over the **nbn**TM network depends on the technology over which services are delivered to their premises and some factors outside **nbn**'s control like equipment quality, software, broadband plans and how the end-user's service provider designs its network.

Copper rehabilitation strategy

Elements of the Telstra copper network are a crucial element in the FTTN architecture, connecting customers' homes and business premises to the network at the node. The quality of this network is not fully known as there has been limited opportunity to evaluate the physical infrastructure at significant scale. However, it is known that there is significant work required to remove broadband blockers from the copper network.

If copper rehabilitation costs are prohibitively high in an area, **nbn** can choose alternative technologies to reduce costs.

HFC

Overview

The HFC network will be built via the acquisition and augmentation of elements of the Telstra and Optus HFC networks. As such, the Revised Telstra Definitive Agreements and Revised Optus Agreement are critical to the execution of the HFC rollout. The HFC program has three guiding principles: 1) execute and roll-out with speed; 2) manage cost; and 3) create the option of long-term separation of the HFC business, subject to an attractive business case, maturity of **nbn** as an operating entity, and market readiness.

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A series of trials are required to test the technology and both internal and external (Delivery Partner) capability to prepare for a full scale rollout. This plan assumes a H2-FY16 launch of HFC products. On 12 February 2015, a successful technology demonstration was conducted on the ARRIS CMTS using the Optus network – the results were encouraging with wholesale download speeds of 376 Mbps and upload speeds of 49 Mbps achieved*.

The intent is to evolve the HFC network to the forthcoming Data Over Cable Service Interface Specification (DOCSIS) 3.1 technology.

Critical path and milestones

To achieve a commercial launch in H2-FY16, the critical next steps are:

- » construction trial to test deployment economics and processes in both Telstra and Optus networks in H1-FY16
- » construction trial to test deployment economics and processes in the combined Optus and Telstra network in H1-FY16
- » launch of a pilot program by H2-FY16
- » development of an IT platform to support the construction trials and the H2-FY16 launch.

* Please see Disclaimer on page 51.

Fixed wireless

The Fixed Wireless program, operating since 2011, is managed through a turnkey delivery contract with Ericsson as the contractor. Ericsson is also contracted to provide managed services to activate customers, maintain and assure the network.

Network deployment is well underway with more than 1,400 sites acquired and 1,000 sites ready for service, delivering 268k premises RFS and 47k activations to date. In accordance with the *Fixed Wireless and Satellite Strategic Review* (May 2014) the total site count is being optimised given satellite coverage and fixed line boundaries. A capacity upgrade program is scheduled to be initiated in FY17 to enhance network performance.

Satellite

The program is currently in the final stages of the build phase with 2015 dedicated largely to testing and preparing for a planned launch in H1-FY16 of the first satellite, and for commercial services to commence in H2-FY16. The team is working with different DPs on the various components of the build while Ericsson (network operations) and Optus (flight operations) are the chosen managed services providers for operations. The program funding is committed and largely spent with the various partners already.

The key priorities for the program are:

- » migrate interim satellite users to LTSS during FY16 and FY17
- » establish operational capability to manage and operate the product
- » achieve targets in excess of 100k users by FY18
- » develop enhanced product offering for additional revenue to offset product subsidy (longer-term priority).

Transit network

The transit program provides the core site, transport and network capability required to deliver all of the five access technology programs. The transit program is ongoing and delivers sites, racks, and power within sites, capacity between sites and aggregation of all access types for common hand off to RSPs.

As of October 2014, all planned 121 POIs were completed, and RSPs are now able to connect to all FANs sites.

While largely rolled out, the shift to the MTM model presents new requirements that are being worked on to support the technologies. Ongoing build of the transit network will be required in coming years to both support the rollout of HFC and to augment the **nbn**TM network as demand for capacity continues to increase.

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4.3 Key enabler organisational groups/functions

Industry management

The Industry management (IM) department has two objectives:

- » enable the organisation to move from an FTTP environment to an MTM environment commercially
- » scale the industry accordingly.

Recent developments include the onboarding of new design partners, raising **nbn's** design output rate, and new frameworks covering all MTM technologies.

A national workforce gap analysis indicates that there is shortage of capacity and capability in some occupations for the MTM rollout, operation and maintenance. This could have a direct impact on the rollout timelines and quality assurance, but more importantly on take-up and revenue. In an effort to address these challenges, the focus is on an up-skilling and training program to ensure there is an industry workforce available that is capable and sustainable.

In parallel, work is underway on negotiating facilities access agreements with utilities for the extended copper and HFC scope, to bring speed to the rollout and leverage existing aerial infrastructure.

Currently, the focus is on successful implementation of two key initiatives – construction delivery contracts and establishing a new volumetric operating platform:

- » incorporating the new contractual model for planning, design, construction and maintenance of the **nbn™** network in construction delivery contracts
- » establishing a new internal operating platform that is capable of managing the volume and complexity of an MTM environment.

In addition, key imperatives for FY16 include:

- » development and implementation of an MTM field based O&M strategy to support ongoing operations
- » development and implementation of an industry workforce strategy to meet the MTM plan for FY16 onwards.

Network and Service Operations (NSO)

The primary responsibility of NSO is to operate and maintain the **nbn™** network. NSO interacts with a wide range of delivery partners and suppliers across all access technologies.



Operational readiness for activations

Historically NSO has focussed on operations and activations for FTTP. Currently, ~1,300 premises are activated per day¹⁶.

An intensive program has been carried to support the FTTB product launched in March 2015 and planned FTTP product launch in H1-FY16. FTTP activation volumes are expected to peak at ~2,850-3,500 per business day in FY17-18.

For FW and LTSS, NSO executed a long term contract and has established a strategic business partner relationship with the Managed Service Partner, Ericsson.

Operate and maintain (O&M)

The plan is structured around progressively taking asset ownership, engaging in long term leasing agreements in addition to operations and maintenance accountability of legacy network assets. This includes the acquisition of copper and HFC infrastructure from Telstra, and HFC infrastructure from Optus.

As elements of the Telstra and Optus networks transfer progressively to **nbn**, the corrective maintenance responsibility will correspondingly shift to **nbn**.

¹⁶ As of May 2015

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Manage interactions with RSPs and end-user

NSO manage the operational interactions between **nbn** and its RSPs and handles end-user enquiries and stakeholder escalations. The key priorities for the short term are to improve the scale and performance of the FTTP operations and to develop and document the processes for FTTB, FTTN, HFC and LTSS.

Information technology (IT)

In the near term, IT will enable the data flows of the organisation, and deliver in the build phase of the journey to activating eight million homes and businesses

- » IT has end-to-end solutions in place for FTTP, FW and FTTB, and is now building out LTSS, FTTN/B and commencing HFC
- » IT faces a number of large challenges in enabling the business to meet its revenue ramp up, external dependencies (listed below), and customer experience commitments.

In the long term, IT aims to become an efficient digital utility, and to have developed a strategy and program of initiatives to:

- » embrace the shift in the role of IT as build and scale completes
- » invest in enhancing data, architecture, and the operating model to accommodate the new business model in the medium term

- » once the transition is completed, support the business by offering a service for rapid, flexible support of business needs.

The most critical dependencies for IT are the Telstra and Optus Definitive Agreements interactions; finalisation of design, construct and operational requirements for FTTN and HFC; integration of RSPs and DPs; and the overall approach to data management.

Revised Telstra Definitive Agreements implementation

Operational and financial outcomes are correlated with the successful conclusion and implementation of the Revised Telstra Definitive Agreements. Since the deal negotiation phase has now completed, the focus has moved to working through operationalising the initiatives required to fully implement the deal.

Human Resources (HR)

The key to attracting and retaining talent is to make **nbn** a great place to work. **nbn** is building a high performance culture where individuals are empowered to make a significant contribution, take personal accountability for delivery of the business objectives and thrive on the experience of working at **nbn**.

In parallel, on the back of the company-wide Employment Engagement Survey conducted in October 2014, **nbn** has reaffirmed its commitment to improving engagement levels. To that effect, **nbn** is investing in enhancing leadership competencies, developing talent and improving the recruiting and onboarding processes. Also, **nbn** has developed a suite of integrated policies, processes and systems to support its staff and works closely with its employees and their representatives.

Health, Safety & Environment (HSE)

Safety and sustainability are at the heart of the way **nbn** operates. The anticipated ramp up in activity reflected in this plan will be matched by a relentless focus on **nbn's** HSE principles:

- » our employees' health and wellbeing is valued and enhanced
- » our people, and those we work with, go home safely every day
- » our leadership position for protecting the planet is visible and evident by our actions.

Security

The **nbn** Security Group is accountable for information, physical and personnel security,

security investigations, privacy and security knowledge management. This recognises that the boundaries between threat environments have become progressively blurred and that connections are increasingly being seen between these previously independent disciplines. **nbn's** role as a provider of "critical infrastructure"¹⁷ requires it to maintain robust controls and detection capabilities, plus high levels of resilience to attack.

nbn continues to develop its security resilience focusing on its capabilities to plan and prepare, adapt to changing circumstances, and withstand and recover rapidly from disruptions. Resilience includes the capability to withstand and/or recover from deliberate attacks, accidents, or naturally occurring threats or incidents.

nbn has adopted a holistic security framework, measuring its overall security compliance against Australian Government security requirements and telecommunications industry obligations. The adoption of a multi-disciplinary **nbn** security group, supported by investment in cyber security compliance controls and independent security reviews, provides a balanced security foundation where a cross-disciplinary team of security professionals commit to protecting **nbn's** reputation, people, assets and information.

¹⁷ The Australian, State and Territory governments define critical infrastructure as 'those physical facilities, supply chains, information technologies and communication networks which, if destroyed, degraded or rendered unavailable for an extended period, would significantly impact the social or economic wellbeing of the nation or affect Australia's ability to conduct national defence and ensure national security'



5. Operational and financial multi-year forecasts

The main operational and financial highlights of the Corporate Plan are:

- » significant progress to **nbn**[™] network completion by 2020 in line with SOE obligation of rolling out the network as soon as possible
- » satellites to be launched in FY16 and FW build to be substantially completed by FY18
- » 8.1 million premises RFS in the fixed-line footprint (FTTN, HFC and FTTP) by FY18
- » 4.4 million premises activated by FY18
- » annual revenues to reach \$1.7 billion in FY18
- » operating costs of \$4.6 billion in FY18 include subscriber-related costs, infrastructure leases and other operating costs including staff related costs, network operations, assurance and corrective maintenance, IT costs, leasing and other overheads
- » capital investment includes the build of multiple technologies, **nbn**[™] network rollout and ongoing capex related to network capacity augmentation, IT build and greenfield developments
- » a contingency has been included to reflect the ongoing uncertainties of an infrastructure build of this scale and timeframe, including uncertainties of revenue timing.



Table 3: Integrated financials

Key financials	FY14(A)	FY15(A)	FY16	FY17	FY18
\$ billions					
Revenue	0.1	0.2	0.3	0.8	1.7
Operating expenses ¹	(1.3)	(1.6)	(2.4)	(3.4)	(4.6)
EBITDA¹	(1.2)	(1.4)	(2.1)	(2.6)	(2.9)
Capital Expenditure	(2.5)	(3.3)	(4.9)	(5.4)	(5.0)
Contingency	-	-	(0.5)	(0.8)	(1.2)
Interest and Working Capital	0.5	(0.1)	(0.3)	0.2	(0.6)
Cash Flow	(3.2)	(4.8)	(7.8)	(8.6)	(9.7)
Peak funding					
Equity funding	8.4	13.2	21.0	29.5	29.5
Debt funding	-	-	-	0.1	9.8
	8.4	13.2	21.0	29.6	39.3

Note

1. Operating expenses and EBITDA are non-GAAP measures. For corporate planning and internal reporting purposes, management treat certain payments for leasing assets as operating expenses. For statutory reporting purposes in quarterly and annual reporting, these payments are treated as finance leases and accordingly are capitalised and amortised over a 35 year period.

5. Operational and financial multi-year forecasts

Continued from page 59 ▶

5.1 Premises Ready For Service (RFS)

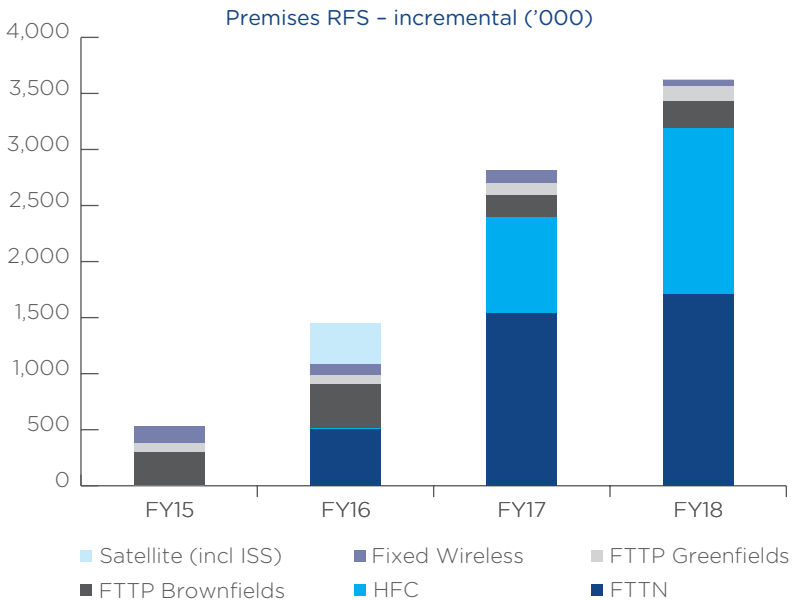
Table 4: Premises RFS cumulative

	FY14(A)	FY15(A)	FY16	FY17	FY18
Premises RFS - cumulative ('000)					
FTTP Brownfields	381	708	1,080	1,270	1,515
FTTP Greenfields	111	189	260	370	505
FTTN	-	-	500	2,035	3,745
HFC	-	-	10	875	2,350
Fixed Wireless	112	268	370	480	535
Satellite (incl ISS) ¹	48	48	412	412	412
	652	1,213	2,632	5,442	9,062

Note

1. Satellite will have capacity to serve ~250k end-users once launched in H1-FY16.

Exhibit 9: Incremental premises RFS profile

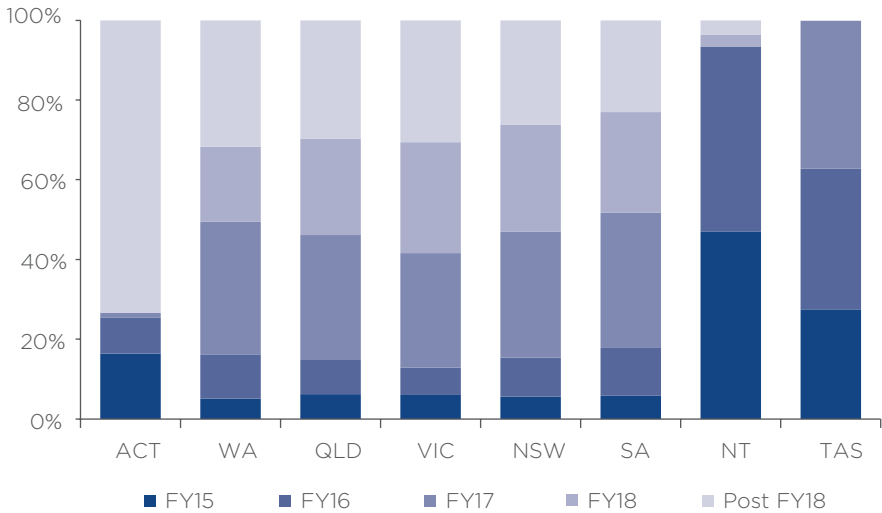


Peak **nbn**™ network rollout volumes occur in FY18 with an incremental 3.6 million premises RFS. Rollout progress will be contingent on the condition of the copper and HFC network assets with respect to their suitability for expected service levels and the associated total cost of ownership.

This will also require delivery models to be in place for the design, construction, migration and operations and maintenance of the FTTN and HFC networks.

The following exhibit summarises progress by state:

Exhibit 10: Progression of fixed line rollout by state



5. Operational and financial multi-year forecasts

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5.2 Prioritisation of underserved areas

The April 2014 Statement of Expectations requests **nbn** to “prioritise areas identified as poorly served by the “Broadband Availability and Quality Report” published by the Department of Communications in February 2014 [...] to the extent commercially, and operationally feasible.”

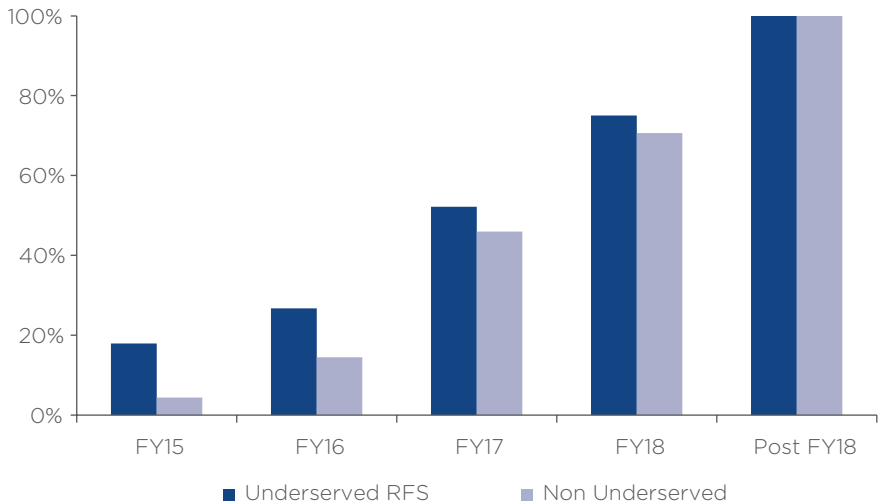
The geospatial analysis led by **nbn** found that there are approximately 1.8 million premises in areas that can be categorised as not having access to adequate broadband services - **nbn** designated these areas as underserved.

The premises in this category are located in regional or remote areas of Australia, or in small pockets of poor service in metropolitan and outer metropolitan areas.

In accordance with the April 2014 Statement of Expectations, **nbn's** rollout of the MTM is prioritising underserved areas to the extent commercially and operationally feasible. The MTM rollout for the next three years is currently passing more than the proportionate amount of underserved premises in these areas.

Please see the exhibit below for more details.

Exhibit 11: Progression of the rollout of underserved areas vs. served areas

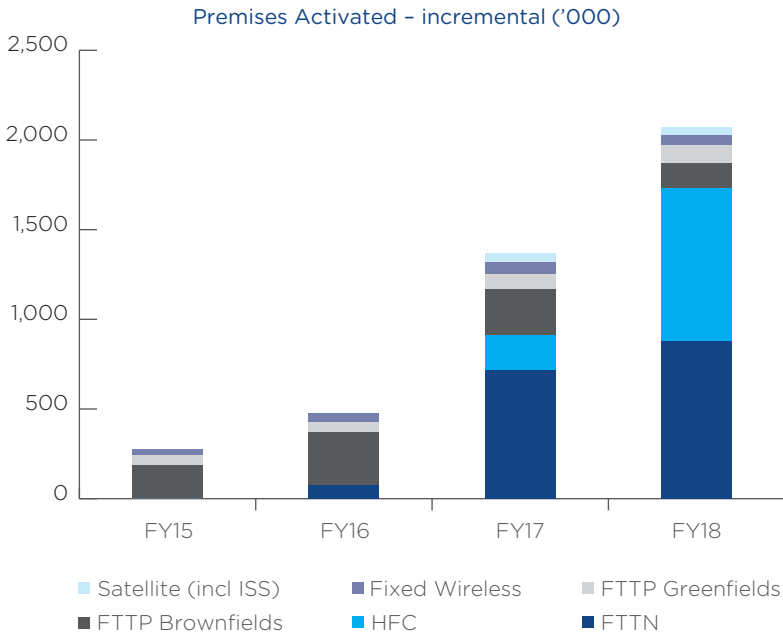


5.3 Premises Activated

Table 5: Activation Profile

	FY14(A)	FY15(A)	FY16	FY17	FY18
Premises Activated - cumulative ('000)					
FTTP Brownfields	105	299	590	845	985
FTTP Greenfields	46	101	155	235	335
FTTN	-	-	75	790	1,670
HFC	-	-	-	200	1,050
Fixed Wireless	17	47	95	165	220
Satellite (incl ISS)	43	39	40	85	135
	211	486	955	2,320	4,395

Exhibit 12: Incremental activation profile



5. Operational and financial multi-year forecasts

Continued from page 63 ▶

The plan anticipates 4.4 million premises activated by FY18.

Peak activation volumes occur in FY18 with 2.1 million activations at an average rate of ~175k activations per month.

This rollout relies on **nbn** being able to contract with sufficient DPs on appropriate terms and within the envisaged timeframes to significantly ramp up connections and activations.

5.4 ARPU and speed tier mix

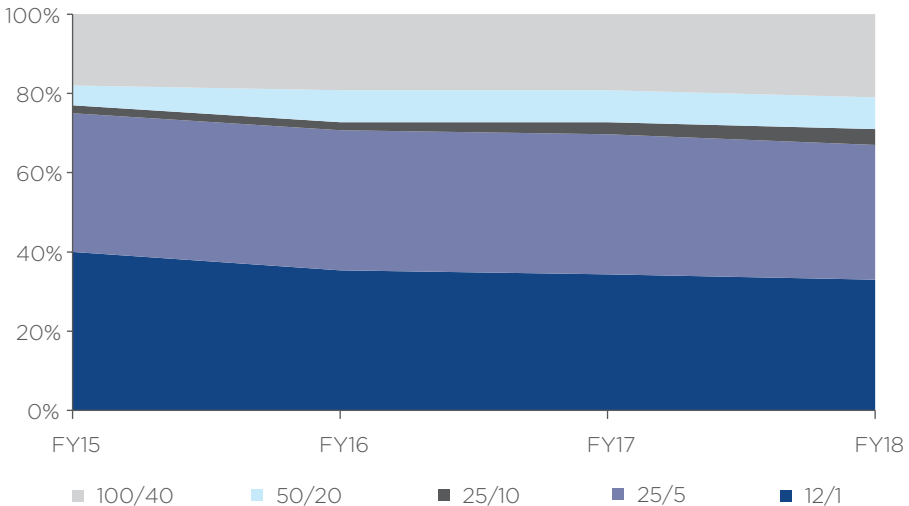
Monthly ARPU is forecast to increase from \$40 in FY15 to \$44 in FY18.

The main drivers for the estimated growth in ARPU include:

- » Increase in **nbn**™ network usage and higher speed tiers: continued double-digit growth in volume through changed consumer behaviour and higher speed tiers as a result of application and device demand expanding. For example, new subscription video services; 4K streaming; and growth in devices per household
- » Business products: introduction of **nbn**™ products into the business market and increasing take-up of business enhanced service levels.

Exhibit 13: Wholesale speed tier mix

Wholesale speed tier mix*



* Please see Disclaimer on page 11.

5.5 Operating costs

Table 6: Operating costs

	FY14(A)	FY15(A)	FY16	FY17	FY18
Opex (\$ billions)					
Subscriber payments	0.1	0.2	0.6	1.4	2.5
Infrastructure related costs	0.2	0.3	0.4	0.4	0.4
Other costs	1.0	1.1	1.4	1.6	1.7
	1.3	1.6	2.4	3.4	4.6

Subscriber-related costs reflect contractual Per Subscriber Address Amount (**PSAA**) payments to Telstra and HFC migration payments to Optus, in line with the timing of disconnection of those services within 18 months of a region being Ready For Service.

Infrastructure leases from third parties primarily represent contractual payments for the right to use licences covering third party infrastructure such as ducts, dark fibre and facilities access. The treatment of these costs

for management and corporate planning reporting purposes as operating costs is a non-GAAP treatment and differs from quarterly and annual statutory reporting where the costs are treated as finance leases and capitalised and amortised over a 35 year period.

Other operating costs include staff related costs, network operations, assurance and corrective maintenance, IT costs, leasing and other overheads.

5. Operational and financial multi-year forecasts

Continued from page 65 ▶

5.6 Capital expenditure

Table 7: Capital expenditure

	FY14(A)	FY15(A)	FY16	FY17	FY18
Capex (\$ billions)					
FTTP Brownfields	0.7	1.5	0.9	0.9	0.7
FTTP Greenfields	0.1	0.2	0.2	0.2	0.2
FTTN	-	0.3	1.7	2.4	1.9
HFC	-	-	0.5	0.8	1.3
Satellite	0.5	0.2	0.3	0.1	0.1
Fixed Wireless	0.3	0.3	0.3	0.4	0.3
Common	0.9	0.7	1.0	0.6	0.5
	2.5	3.3	4.9	5.4	5.0

The associated anticipated Cost Per Premise (CPP) by technology are detailed in the following table.

Table 8: CPP by technology

	FTTP		FTTN	HFC	FW	Satellite
	Brown-fields	Green-fields				
Weighted average CPP (rounded nearest \$100)						
Capital Expenditure	3,700	2,100	1,600	1,100	4,100	7,900
Infrastructure lease	700	-	700	700	800	-
Total	4,400	2,100	2,300	1,800	4,900	7,900

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

- (a) The Cost per Premise is an internal **nbn** management calculation used to assess the comparative incremental costs of construction of each access technology.
- (b) The CPP reported is a weighted average over the full period of build (which extends beyond the Corporate Plan period and as such contains estimates beyond FY18) and depends on a number of factors such as geographic build conditions, wholesale speed performance required by technology, population density of the area considered, the number of premises per multi dwelling unit buildings and the extent of re-use of the existing infrastructure.
- (c) The results reflect the capital and lease costs associated with the construction of the access network, and exclude common capex (such as IT and Transit network), and capital investment incurred post construction (e.g. capacity growth). It also excludes net operating losses.
- (d) The reported cost reflects the sum of underlying rates for individual elements of construction, which relate to the volume of technology build, premises connected or activated as relevant.
- (e) The CPP excludes the impact of initial trial arrangements, where costs are not in line with long term expectations (due to low volume, and bespoke commercial and delivery arrangements), and excludes contingency.
- (f) Infrastructure leases are included in the CPP calculation based on an NPV of minimum future payments, and consist of certain infrastructure assets utilised in the fixed line network such as ducts, wireless towers and ground leases. The treatment of certain payments to Telstra have been updated to reflect the latest commercial terms under the Revised Telstra Definitive Agreements. Whilst not reported as capital costs in the Corporate Plan, these outlays represent a necessary and incremental cost of construction of each access network.
- (g) Satellite CPP is based on effective capacity, not premises covered.

5. Operational and financial multi-year forecasts

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Life to date (LTD) performance

FTTP Brownfields and Greenfields

As at June 2015, the cost per premise for FTTP Brownfields and Greenfields was \$4,387 and \$2,798 respectively. The expected fall in Greenfields CPP is due to cost efficiencies generated over the build period.

Fixed Wireless

As at June 2015, the cost per premise was \$3,595. The weighted average CPP is forecast to increase to ~\$4,900 as the future rollout areas are expected to have a lower premises density than the built Fixed Wireless footprint.

5.7 FY19 outlook

At this stage, the plan anticipates FY19 to be consistent with the trends observed across all key operational and financial metrics in FY16-FY18. More specifically:

- » Premises RFS to continue growing, albeit at a slower rate than FY18 as the rollout exceeds 90% completion
- » Revenue to grow, in line with higher activation volumes, and faster than operating costs, delivering an EBITDA improvement

- » Capital expenditure to slow down and, combined with an improved EBITDA position, to deliver a better cash flow position (i.e. lower incremental debt funding requirement than FY18).

The FY19 outlook is an initial forecast, less detailed than FY16-FY18. It also should be noted that there is additional uncertainty as outer years are considered.

5.8 Peak funding estimates and scenario analysis

Estimated peak funding range

Due to the long term uncertainties management is forecasting a range of possible outcomes. The Corporate Plan together with an initial forecast of years beyond FY18 estimates a peak funding in the range of \$46 billion to \$56 billion. Management are targeting a base case peak funding of \$49 billion, which includes a contingency of \$4.6 billion for unforeseen risks inherent in a complex infrastructure build over multiple years. This contingency is intended to cover revenue, operating costs and capex risks.

Scenario analyses

As outlined above, while the Operating Plan and Corporate Plan represents management's view of the most likely outcome, low and high cases across these challenges are also plausible outcomes and their impact on peak funding should be

Exhibit 14: Scenario analysis of key sensitivities

Area	Change required to impact funding requirement by \$1 billion
Residential monthly ARPU	Every \$3
Residential penetration rate (fixed technologies only)	Every 5%
FTTN launch delay	Every 7 months delay
HFC activations profile	7 month delay
FTTN activations profile	20% reduction in peak industry capacity
Higher HFC lead-in cost	Every \$250
FTTN node cost	Every 25%

acknowledged. A critical sub-set of the challenges has been assessed in detail and sensitivities have been tested to identify their impact on delivery timing and peak funding, and to inform management's view of the peak funding range.

Based on these assessments, the most critical sensitivities are:

- » ARPU increase
- » take-up rate
- » product launches: delays in HFC and FTTN product launches
- » activations: changes in activations profile for HFC and FTTN
- » capex changes, e.g. HFC lead-ins and network cost and/or FTTN node cost.

These sensitivities define an interval on funding requirement that inform a range of the most likely outcomes

for this plan. The high and low case show the likely boundaries of the funding requirement based on differing assumptions.

- » low peak funding case: indicates a difference of -\$3 billion in funding requirement to the base case (to a total of \$46 billion in peak funding) if the revenue drivers evolve more beneficially, the activations profile for HFC can be accelerated and capex and opex are lower than expected
- » high peak funding case: indicates an increase in funding requirement of +\$7 billion in funding requirement on top of the base case (to a total of \$56 billion in peak funding) in case ARPU growth and/or take-up is lower, the HFC and FTTN activations are delayed and both capex and opex are higher than expected.

5. Operational and financial multi-year forecasts

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5.9 Long term financial outlook

In a market as dynamic as telecommunications, the ability for Management or Board to accurately forecast the long term financial prospects is inherently uncertain.

nbn has a limited factual and operational base for financial projections, with uncertainty in the long term market and competitive landscape, customer usage, Australian Government policy, technology innovation and potential for other disruptive events giving rise to a wide range of possible financial outcomes.

Using the same long range assumptions as applied in the Strategic Review, the long term financial outlook, based on the Operating Plan extrapolated to FY40, provides an IRR of 2.7% – 3.5%.

Additional disclaimer: management and the Board do not give any guarantee or assurance that the results, performance or achievements expressed or implied by the outlook will actually occur. The Operating Plan addresses the period FY15-FY22 only, Management and the Board have not taken a view on assumptions beyond that time, and no better estimates exist than the assumptions applied in the Strategic Review dated December 2013.

5.10 Sources of funding

Management has flexibility and discretion in operational, technology and network design decisions, within the constraints of a public equity capital limit of \$29.5 billion.

It is expected that **nbn** will continue to be funded with Commonwealth equity until **nbn** has sufficient cash flows and track record to support private sector debt without explicit Commonwealth support. During the rollout period **nbn** will raise private sector debt to complement Commonwealth equity. Following completion of the rollout, **nbn's** Board, in conjunction with the Commonwealth, will consider the optimal capital structure.

Critical to **nbn's** ability to raise external funding without explicit support by the Commonwealth will be the opinions of debt providers on **nbn's** performance in achieving major targets such as rollout timeliness, connections take-up and cost discipline, which will form the key metrics of credit quality.

Management continues to review its debt funding options in anticipation of debt funding requirements by FY17.

Market capacity, and the risk appetite of debt investors from time to time, may limit or increase the amount of debt that **nbn** can actually raise. Any such variation would require revising the funding plan at the time.



5.11 Subsidiaries

The subsidiaries of **nbn** are listed in the table below.

Table 9: Subsidiaries of nbn

Risk description	Country of incorporation	Class of shares	Equity holdings
NBN Tasmania Limited	Australia	Ordinary	100%
NBN Co Spectrum PTY Ltd	Australia	Ordinary	100%

nbn co limited and NBN Tasmania Limited are parties to a deed of cross guarantee under which each company guarantees the debts for the other. The business of NBN Tasmania

Limited is exclusively operated by nbn co limited. NBN Co Spectrum Pty Ltd is a non-operating company which holds spectrum licences for nbn co limited.

6. Risk management

While the forecasts in this plan represent the current best estimates these projections are subject to significant risks and challenges that need to be recognised as they might impact the plan delivery.

Critical assumptions on scope, cost and timing are based on high level estimates of activities that still need to be proven in practice, as there is limited information (e.g. the condition of the copper and HFC network assets) and/or experience in building and activating these technologies in the planned scale and scope (only limited learnings are available from pilots so far). The in-progress Joint Deployment Works Contract (JDWC) trials with Telstra will deliver valuable insights and reduce the uncertainty for future planning cycles.

nbn's Board and Management are committed to implementing and operating a robust risk management framework to allow for the proactive identification, assessment and management of material risks. The formal Risk Management Policy articulates the company's objectives, approach and responsibilities with regard to risk management. That policy takes an Enterprise Risk management approach, and is reviewed annually (last approved by the Board in February 2015).

6.1 Risk identification

While all business plans have embedded risks and challenges, the risk profile of this plan is magnified by the fact that nbn will develop, deploy and operate five network technologies in parallel, at national scale. And despite the identified mitigations, the overall challenge of managing the complexity of dealing with these issues simultaneously cannot be overstated.

The challenges embedded in the plan can be grouped in five main themes:

1. **capacity and capability to deal with the scale, scope and complexity of the plan:** the ability to manage the process complexity, resource contention and speed to maturity required to overcome the multiple simultaneous challenges of deploying commercial service over new FTTN and HFC networks as well as the new LTSS network, in addition to scaling the existing FTTP and FW businesses

2. **deal implementation:** successful implementation of the Revised Telstra Definitive Agreements and Revised Optus Agreement and development of the critical skills to manage these networks
3. **rollout and activations:** set-up, up-skilling and management of DPs for both FTTN and HFC to ensure there is no industry-wide shortage of capacity and capabilities across Australia. The timely delivery of IT and network releases to support multiple technologies is also a critical challenge, as is RSP readiness (operationally and commercially) to sell and serve end-users at scale
4. **revenue realisation:** achievement of target ARPU and penetration rates, while managing competitive dynamics. Revenue may also be adversely impacted if copper quality leads to service degradation
5. **unknowns:** there is uncertainty around certain cost drivers, the actual size of the footprint, and potential adverse events or developments that may disrupt the operational or financial progress of the project.

6.2 Risk mitigation

Risks have been assessed and, whenever possible, mitigation strategies have been identified and put in place. However, management notes that significant residual risk remains, hence the need for a peak funding range, as well as a \$4.6 billion contingency (~10% of estimated peak funding), in the long term forecast.

6. Risk management

Continued from page 73 ▶

Capacity and capability to deal with scale, scope and complexity of work

The organisation must be set up for success, given the magnitude of the task on hand. The key risks related to organisational capacity and capability are:

Risk description	Mitigation strategy
<p>Capability and talent: ability to recruit, train and retain the right people for critical positions. Shortages remain in commercial and business acumen and senior network operations experience.</p>	<p>Several programs aimed at internal staff, contractors and consultants:</p> <ul style="list-style-type: none"> » Leadership competencies and engagement » Global talent search for select skills areas, e.g. HFC » Recruiting and sourcing process overhaul » Internal redeployment and training programs » Employee brand and value proposition
<p>Business, process and systems maturity: business foundations needed for the organisation to be able to scale to manage expected volume of work across build, activation/provision, assurance and fall out</p>	<p>Significant work underway to address process and systems maturity:</p> <ul style="list-style-type: none"> » Launched Business Process Excellence program, deploying Lean Six Sigma approach consistently across the businesses » Process definition for critical MTM planning, design, build, assurance, activations and service processes, as well as comprehensive overhaul of support infrastructure functions (e.g. Finance processes and systems) » IT software build for process automation to support process re-engineering
<p>Operating model: clarity on organisational roles and responsibilities, and governance required to improve operational effectiveness</p>	<p>Assessment of company accountabilities, structure and work practices underway</p>
<p>P to MTM Transition: challenges of moving the organisation and culture from FTTP to MTM and from a “BuildCo” to an “OpCo”, given complexity of standing up multiple technologies in a short-period of time</p>	<p>Dedicated cross-functional program to manage transition to MTM, with multi-layered program management office driving holistic business transformation initiative to enable MTM readiness across planning, design, construction, assurance, activations, product and service management functions</p>

Deal implementation

The network assets being acquired under the Revised Telstra Definitive Agreements and Revised Optus Agreement need to be

transferred effectively, with minimal cost of implementation. Key challenges involved in the deal implementation include:

Risk description	Mitigation strategy
<p>Implementation: contract protocols (e.g. network operations), lack of information in the network being transferred (e.g. copper network condition) and development of critical capabilities to be able to manage, upgrade or integrate them (working in a live network environment, copper rehabilitation and assurance capabilities)</p>	<ul style="list-style-type: none"> » Setup of comprehensive portfolio book comprising 37 initiatives for end to end implementation of the deal; initiatives entrenched into nbn processes and knowledge transfer from deal team to business » Investment in constructive working relationship with Telstra as part of joint project planning and introduction of interim processes prior to scale
<p>New functionality: new capability and functionality required to meet deal requirements (e.g. associated passive infrastructure processes, implications of Telstra Continuity Deed)</p>	<ul style="list-style-type: none"> » In depth requirements specification efforts, in underway collaboration with Telstra » Introduction of interim manual processes, while working closely with Telstra as part of joint project planning » Learnings from JDWC
<p>Implementation cost: commercials and direct implications of Telstra deal execution could be worse than assumed</p>	<ul style="list-style-type: none"> » Comprehensive governance process being implemented to monitor and control implementation costs » Individual accountability in technology programs for proactive management of Telstra implementation efforts to avoid incremental costs

Rollout and activations

The need to provision, activate and assure multiple networks, across all Australia, with limited previous experience, presents numerous challenges. A number of key

dependencies have a bearing on **nbn's** ability to achieve the committed launch timelines and several challenges need to be addressed to ramp up and achieve the scale required within the planned timeframe. These include:

Risk description	Mitigation strategy
<p>IT functionality: FTTN and HFC launch and scale capabilities are dependent on oversubscribed IT releases, and may require manual workarounds (when possible) or become delayed</p>	<ul style="list-style-type: none"> » Set up of mature business engagement approach to define and deliver to business needs » Early engagement on the business requirements to avoid rework and delays » Separation of platforms to speed up delivery of key functionality and reduce scalability risks » HFC architectural options to meet launch timing, including alternative delivery models
<p>Industry capacity and capability: inability to secure sufficient industry capacity with copper and/or HFC skills and capabilities and deploy them within the timeframe required could create bottlenecks or delays in rollout or ramp-up</p>	<ul style="list-style-type: none"> » In depth resource project for creation of industry capability and skilling framework » Comprehensive procurement project to deliver contractual mechanism with industry (MIMA), better engagement with DPs to give visibility of nbn needs
<p>Network and Sales Operations (NSO) readiness: ability to set-up and manage all processes, systems and tools for the required activations and assurance. Potential delays to outsource certain operations and IT services for MTM, critical enabler of business process execution in the short term. In addition, need to deal with the challenges of working in a live network for FTTN</p>	<ul style="list-style-type: none"> » Redevelop forecasting and planning tools to improve maturity and accuracy » Comprehensive end to end process review for activations and assurance across MTM » BPO and ITO of FTTN operations; O&M strategy for field operations, order management, work and workforce management (using Telstra skills when possible); tailored model being developed for HFC » IT engagement to deliver requirements for automation and straight-through processing; manual work-around if IT release delayed » Learnings from JDWC
<p>RSP readiness: delays and/or changes to the product and IT roadmap, as well as footprint release might affect timing and size of RSP investment</p>	<p>Integrated process to ensure that RSP readiness is achieved on time to deliver on the launch and ramp up requirements</p>

Revenue realisation

The revenue realisation is naturally dependent on deal implementation, and also on the rollout profile and activation capacity. Such risks have

been covered above and therefore this section will only explore revenue risks in a scenario where the rollout profile is met and activation capacity is not a constraint:

Risk description	Mitigation strategy
Residential ARPU: lower ARPU than expected or changing consumer behaviours	<ul style="list-style-type: none"> » 2-tier AVC-CVC pricing construct to drive uptake and monetise usage in conjunction with a clear pricing strategy » New revenue streams being developed
Residential take-up: increase in mobile-only premises (wireless carriers might be more aggressive on wireless value proposition, or 5G roll-out), or in premises served by alternative fibre providers	<ul style="list-style-type: none"> » Residential entry-level product/pricing to ensure competitiveness vs mobile; » Excellent customer service to RSPs » Investment in nbn brand perception to drive up demand » New revenue streams being developed
Business ARPU: connectivity needs of different business segments could be overestimated (e.g. lower take-up of Traffic Class 1/2 and Service Level Agreements)	<ul style="list-style-type: none"> » Engagement with business RSPs to adjust product to business customer needs, if required » New revenue streams being developed
Business take-up: higher loss to alternative fibre providers for small and medium capability business customers (i.e. greater Telstra and Optus footprint than estimated)	<ul style="list-style-type: none"> » Ensure Technology Choice program is efficient and competitive » Engagement with business parks
Business product readiness: delay in HFC and FTTN business product release to market	Cross-business IT prioritisation for HFC / FTTN business product development, trading off other business priorities

6. Risk management

Continued from page 77 ▶

Unknowns

Despite the comprehensive planning exercise undertaken by **nbn**, some important variables remain unknown and will only be better understood in the course of the plan implementation. Such risks are:

Risk description	Mitigation strategy
<p>Costs: capex estimated might prove inaccurate (e.g. FTTN copper rehabilitation, HFC lead-in cost); opex costs might be higher due to higher requirement for manual processes, or more headcount on critical areas (e.g. call centres) to manage volume of work</p>	<ul style="list-style-type: none"> » Learnings from JDWC » Access to Telstra copper network data » Robust design rules around rehabilitation, in place before build work starts » Cost benchmarking » Procurement tenders
<p>Size of footprint: the size of the addressable market has been based on official data sources, but actual experience in the field suggests the number of addressable premises may be overstated</p>	<p>Ongoing refinement of premise count by overlay of marketing intelligence and enterprise-wide address management on top of PSMA's G-NAF source data</p>
<p>Adverse regulatory decisions: decisions by the government and/or regulatory bodies (including the ACCC) that affect the fundamental assumptions of this plan</p>	<p>Ongoing engagement with government and regulatory bodies. However, the actual outcome of this risk is beyond management control</p>
<p>Satellite launch failure: the launch and/or in-orbit operation may not occur as intended</p>	<ul style="list-style-type: none"> » Launch team (Arianespace) are very experienced and have a high success launch rate » Launch of two satellites (redundancy) » Financial (build) risk mitigated through insurance » Rigorous testing before launch to minimise failure on orbit

7. Ongoing plan and policy refinement

It is important to stress that the Corporate Plan has a high level of challenge embedded, especially around the organisation's ability to develop, deploy and operate five network technologies in parallel in the next few years – a significant step change from **nbn's** past performance and current capabilities. The successful delivery of the plan is not without risk.

Management is continuously working to improve the plan through a series of initiatives aimed at improving the speed of rollout, customer outcomes, revenue, and lowering cost and the risk of execution. While these initiatives have been identified, they are still relatively nascent.

These initiatives include:

- » cost efficiencies in opex and capex, including network technology and design, contracting arrangements and workforce

- » ARPU growth in residential and business segments, and initiatives aimed at increasing overall penetration
- » new revenue opportunities
- » increased rate of activations to accelerate revenue growth
- » overall operational readiness of the business
- » Business Process Excellence (**BPE**), including Lean and Six Sigma.

Management remains committed to the overall purpose of **nbn** which is to connect Australia and bridge the digital divide. This Corporate Plan reflects the outcome of significant planning work to achieve this purpose, along with the significant progress made during FY15 in many areas.



Glossary

Term	Description
12 Quarter Integrated Deployment Plan (IDP)	Forward looking nbn technology construction and serviceable premises deployment plan forecast, covering 3 years (12 quarters), updated every quarter.
ABS	Australian Bureau of Statistics.
ACCC	Australian Competition and Consumer Commission.
Access Distribution Area (ADA)	Geographic area served by a common primary access network technology choice. Typically serving 100-200 Premises.
Access Seeker	A customer acquiring nbn wholesale services with the intention to supply broadband services to Service Providers or End-Users.
Access Technology	The technology used by nbn to deliver the nbn TM from the exchange location to the network distribution point.
Access Virtual Circuit (AVC)	The bandwidth acquired by RSPs which can be allocated to an end-users' premises. The AVC is a virtual point to point connection from nbn 's network boundary associated with an end user's premises back to the POI.
April 2014 Statement of Expectations	Letter to nbn from its Shareholder Ministers dated 08 April 2014. See: http://www.communications.gov.au/___data/assets/pdf_file/0014/221162/SOE_Shareholder_Minister_letter.pdf
Asymmetric Digital Subscriber Line (ADSL)	A technology for delivering high-speed data transmission over a copper phone line. Provides different downstream (network to End-User) and upstream (End-User to network) bandwidth.
Average Revenue Per User (ARPU)	Calculations include all telecommunications revenue generated including AVC, CVC and NNI products.

Glossary

Term	Description
Business Process Excellence (BPE)	Optimisation of business processes through adoption of best practices and frameworks to standardise work processes to improve business performance and efficiency.
Brownfields	Pre-existing Premises.
Business Support System (BSS)	The set of systems that will provide nbn with the capabilities to manage, take orders, process bills and collect payments.
Business-to-Business (B2B)	Commerce transactions between businesses.
Capital Expenditure (Capex)	The cost of purchasing tangible and intangible assets.
Connectivity Serving Area (CSA)	A logical collection of End-User Premises defined by nbn . Each CSA has approximately the same number of End-User Premises.
Connectivity Virtual Circuit (CVC)	Determines the capacity of an RSP to be able to serve each CSA. The CVC is virtual Ethernet broadband capacity acquired by an RSP that can be allocated by them to their aggregated AVCs at a CSA.
Copper Network	Telstra's copper-based customer access network, which is used to deliver standard voice telephony and broadband services.
Customer Engagement Metric (CEM)	Scoring from 1-10 given to nbn by its Customers.
Customer	A customer to nbn also defined as an Access Seeker or a Service Provider.
CY20XX	Calendar year ending 31 December 20XX.
Data Over Cable Service Interface Specification (DOCSIS)	A telecommunications standard that permits the addition of high-speed data transfer and internet access through HFC infrastructure.

Term	Description
Delivery Partner	A third party involved in the build of the nbn™ network. A Delivery Partner is a contractor, which has a contract with nbn for the delivery of a certain amount of work / activities in relation to the build and operation of the nbn™ network.
Digital Subscriber Line Access Multiplexer (DSLAM)	Network device normally located in telephone exchanges providing multiple ports connecting End-User copper lines for the provision of DSL broadband service.
Disconnection Commencement Date (DCD)	Start date to the disconnection process which involves a disconnection order and permanent disconnection of all legacy services.
Distribution Network	The part of the network that connects the FAN to the ADA.
DSL	Digital Subscriber Line. A family of technologies that deliver high-speed data transmission over a copper phone line.
Duct	A tubular structure usually underground used to house communications cables and equipment.
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation.
End-User	Final downstream customer to nbn's Service Providers.
Fibre Access Node (FAN)	A facility that houses the active equipment providing services to a FSA.
Fixed-line Serving Area (FSA)	The area served by a single FAN site. FSAs can be as small as 1,000 Premises in regional areas and up to 30,000 Premises for large FSAs in metro areas.

Glossary

Term	Description
Fibre To The Premises (FTTP)	<p>Network design in which the fibre network is deployed to each Premises.</p> <p>It involves connecting homes and businesses with an optical fibre cable which can be used to provide a range of high-speed broadband services and phone services.</p>
Fibre To The Basement (FTTB)	Network design in which the fibre network is deployed to the basement of a building.
Fibre To The Node (FTTN)	Network design in which the fibre network is deployed to the node (i.e. a VDSL cabinet), while copper lines are used for the connection between the node and the Premises.
Fibre To The x (FTTx)	Generic term for any broadband network architecture using optical fibre to replace all or part of the usual metal local loop used for last mile telecommunications. The generic term was initially a generalisation for several configurations of fibre deployment (FTTN, FTTC, FTTB, FTTH...), all starting with 'FTT' but differentiated by the last letter, which is substituted by an x in the generalisation.
Fixed Line (FL)	Delivery of voice, data and broadband services over a physical line from the exchange location to the End-User Premises (with termination at that Premises).
Fixed Line Brownfields	nbn's Fixed Line footprint of Brownfields Premises.
Fixed Line Greenfields	nbn's Fixed Line footprint of Greenfields Premises.
Fixed Wireless	Network design in which network connections are provided through radio signals.
FY20XX	The financial year ending 30 June 20XX.

Term	Description
Geocoded National Address File (GNAF)	GNAF® information is provided by PSMA Australia Limited (PSMA). GNAF® lists all valid physical addresses in Australia. It contains approximately 12.6 million physical addresses, each linked to its unique geocode (that is, the specific latitude and longitude of the address). Data used to build GNAF® comes from contributors that include the Australian Electoral Commission, Australia Post, State, Territory and Australian Government mapping agencies and land registries.
Government	Reference to the Commonwealth or Cth is used interchangeably with Government.
Government Business Enterprise (GBE)	Commonwealth entity or Commonwealth company as defined by the Public Governance, Performance and Accountability Act 2013.
Greenfields	A new development that can be either New Developments or Infills. Greenfields developments represent the growth of the Premises market.
Health, Safety & Environment (HSE)	The activities responsible for establishing and maintaining policies regarding employee health, safety and environment issues.
Hybrid Fibre Coaxial (HFC) Cable Networks	Networks utilising both optical fibre and coaxial cable for the delivery of Pay TV, internet and voice services.
Infills	A type of Greenfields development where new Premises or a redevelopment (i.e. demolition and rebuild) are planned to be built on currently developed land that is surrounded by established areas, where Telstra copper services are currently available.

Glossary

Term	Description
Interim Satellite Service (ISS)	nbn's Interim Satellite Service was launched on 1 July 2011 to provide access to broadband services to people in homes, small businesses and indigenous communities in some of the most remote areas of Australia. The Interim Satellite Service is a temporary measure until nbn launches its own Long Term Satellite Service currently scheduled for 2016.
Internal Rate of Return (IRR)	The average annual total return from an investment over a specified time period, used to measure and compare the profitability of the investment.
Joint Deployment Works Contract (JDWC)	Agreement between nbn and Telstra to pilot the planning, design and construction of ~2,000 nodes across Queensland and New South Wales
Key Performance Indicator (KPI)	A metric used to measure the progress or degree of fulfilment of a particular success criterion.
Kilobits per second (Kbps)	A unit of measurement of transmission speed. One Kilobit Per Second is equal to 1,024 bits per second.
Layer 2 Network / Wholesale Services	The transmission layer that encodes and decodes information bits across layer 1 infrastructure. Layer 2 is the active layer of an optical fibre network.
Local Network	The part of the network from the Fibre Distribution Hub down each street.
Long Term Satellite Service (LTSS)	nbn launched satellites which will provide broadband service to Australia in predominantly rural locations.
LTI	Lost Time Injuries.

Term	Description
Megabits Per Second (Mbps)	A unit of measurement of transmission speeds. One Megabit Per Second is equal to 1,000 kbps. X / Y Mbps means a maximum wholesale downstream speed of X Mbps and a maximum upstream speed of Y Mbps at nbn TM network's boundary.
MTM	Multi-Technology Mix.
Multi-Dwelling Unit (MDU)	Premises that contains more than one dwelling unit, which can range from duplexes to 200+ unit apartment blocks. Each dwelling unit is assumed as equivalent to one GNAF (e.g. a 50 unit apartment block will have 50 GNAFs). MDUs come in a variety of formats and may include vertical buildings, horizontal buildings, gated communities, business parks, etc.
nbn	nbn co limited.
nbnTM network	The nation-wide broadband network that will be deployed by nbn and third parties engaged on behalf of nbn .
Network and Service Operations Centre (NSOC)	Facility overseeing management and operation of the network infrastructure.
Network Termination Device (NTD)	nbn 's termination point on each premise, for residential fibre services (typically) featuring 4 Ethernet and 2 telephone interfaces.
Network-to-Network Interface (NNI)	The port at nbn 's Point of Interconnect (POI) where Service Providers connect their internet transmission backhaul.

Glossary

Term	Description
New Developments (Greenfields Estates)	<p>A New Development is defined as an estate that complies with the New Development Policy statements released by the Government.</p> <p>For the role of nbn with regards to Greenfields developments, refer to the appropriate policy as befitting the circumstance. http://www.nbnco.com.au/industry/new-developments.html</p>
Operating Expenditure (Opex)	<p>The ongoing cost of running a business, system or product, including payments under lease agreements.</p> <p>For the purpose of the Corporate Plan, Operating Expenditure includes all nominal payments, such as nominal payments under finance lease agreements. This nominal view of costs incurred may differ from the accounting treatment under statutory accounting rules.</p>
Operating Plan	<p>A cross-functional bottom up plan that seeks to address the known challenges, execution fronts and interdependencies facing the implementation of Australia's broadband network.</p>
Operational Support Systems (OSS)	<p>The set of systems that will provide nbn with the capabilities to provision, configure, manage, and operate the nbnTM network.</p>
Optus HFC Agreement	<p>The agreement between nbn and Singtel Optus Pty Ltd and other Optus entities (Optus) which was executed on 23 June 2011. The Optus HFC Agreement provides for the progressive migration of Optus HFC subscribers to the nbnTM network as it is rolled out. nbn has agreed to make progressive payments to Optus, based on the number of Optus subscribers that migrate from its HFC Cable Network.</p>

Term	Description
Point of Interconnect (POI)	The connection point that allows RSPs and WSPs to connect to the nbn access capability. In the field, this is the physical port on the Ethernet Fanout Switch (EFS) switch located at nbn's POI, where an Access Seeker connects to establish exchange of traffic with nbn's network.
Premises	Premises are defined as addressable locations which nbn is required to connect and are included at Attachment A - Premises Definition, of the December 2010 Statement of Expectations. The Statement of Expectations refers to this definition as the basis for measuring nbn's achievement of the Government's coverage objectives.
Premises Activated	Refers to Premises which have an active service installed. Premises are activated after receiving and provisioning a service order from a Retail Service Provider (Service Provider) to install a new service at the Premises.
Premises Covered	Premises Covered refers to Fixed Wireless and Satellite areas where Premises have Fixed Wireless or Satellite coverage and can access a service via nbn's Service Providers, but where no physical infrastructure passes the Premises.
Premises Passed	Premises passed by the nbn ™ network, including premises activated and those which can't yet access a service (i.e. Service Class Zero).
Premises Ready For Service (Premises RFS)	Brownfield Premises in a Rollout Region that is Ready For Service, Greenfield Lots/Premises Passed and/or Premises Covered by Fixed Wireless and Satellite. Premises at Service Class Zero are included.

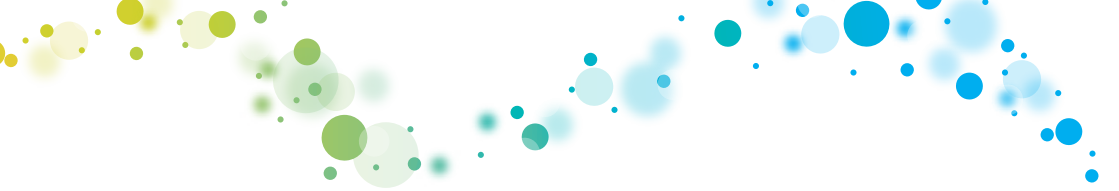
Glossary

Term	Description
PSMA - Australia	Public Sector Mapping Agencies - Australia.
Ready For Service (RFS)	A Rollout Region is Ready For Service when nbn is ready to begin activating Premises in that Rollout Region to the nbn TM network, which is when the nbn TM network has passed at least 90% of the premises in the nbn TM footprint in that Rollout Region.
Retail Service Provider (RSP)	A third party provider of retail broadband services to End-Users.
Rollout Region	A region served by the nbn TM network. A Rollout Region is typically, but not always, a Serving Area Module (SAM).
Service Area Module (SAM)	An area, defined by a collection of ADAs, selected by nbn in accordance with the nbn design rules that covers a maximum of 5,000 Premises.
Service Class (SC)	Means the classification under the WBA for the purposes of determining at what stage of readiness for connection to the nbn TM network a Premises is (depends on status of physical infrastructure applicable to that Premises). See the WBA Dictionary at http://www.nbnco.com.au/content/dam/nbnco/documents/sfaa-wba2-dictionary_20140430.pdf
Service Class Zero	Category given to a Premises that is in the nbn TM fibre network footprint but which cannot presently be provided with an nbn TM fibre service and is further defined in the WBA Dictionary at: http://www.nbnco.com.au/content/dam/nbnco/documents/sfaa-wba2-dictionary_20140430.pdf

Term	Description
Service Providers	A third party provider of broadband services whether to End-Users and/or Retail Service Providers (See also Retail Service Providers and Wholesale Service Providers).
Single Dwelling Unit (SDU)	Premises that contain only one dwelling unit. One SDU is equivalent to one GNAF.
Special Services	Particular types of services as defined in the Telstra DAs which are provided over the Copper Network and which may not be disconnected on the Disconnection Date for a Rollout Region. A separate regime (with a different timeframe for disconnection) applies to disconnection of special services provided over the Copper Network. Disconnection protocols have been agreed to govern this.
Statement of Expectations (SOE)	Letter to nbn from its Shareholder Ministers dated 08 April 2014. See: http://www.communications.gov.au/___data/assets/pdf_file/0014/221162/SOE_Shareholder_Minister_letter.pdf
Strategic Reviews	Includes the December 2013 Strategic Review and the May 2014 Fixed Wireless and Satellite Strategic Review.
Telstra Definitive Agreements or Telstra DAs	The suite of agreements entered into between nbn and Telstra on 23 June 2011 and which are described in the release issued by Telstra to the ASX on that day.
Transit Fibre	Connection between POIs where Service Providers connect to the nbn TM network, and the regional based FANs. Transit Fibre can also provide connectivity for the Metropolitan FANs to POIs if required.
Transit Network	The fibre rings which connect the regional FAN sites and the nearest POI, served by Transit Fibre.

Glossary

Term	Description
User Network Interface (UNI)	The physical port on the nbn ™ supplied NTD at the End-User Premises which connects the End-User's residential gateway or Ethernet enabled device to the nbn ™ network which could be either a UNI-D (User Network Interface - Data) or UNI-V (User Network Interface - Voice).
VDSL	Very-High-Bit-Rate Digital Subscriber Line.
Vertigan Cost-Benefit Review	Means the cost-benefit analysis and review of the regulatory arrangements for nbn conducted by the panel comprising Dr Michael Vertigan AC, Ms Alison Deans, Professor Henry Ergas and Mr Tony Shaw PSM.
Wholesale Broadband Agreement (WBA)	A document which sets out nbn's supply terms for the nbn Ethernet Bitstream Service and other related products and services.
Wholesale Service Provider (WSP)	A provider of wholesale services to Service Providers.




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