NBN Co Update
2011 National General Assembly of Local Government

Tuesday 21st June 2011

Duncan Bremner – Stakeholder Relations

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NBN Co Objectives—a Re-Cap

Coverage	• Provide a wholesale service that enables competition and innovation by service providers throughout Australia
Competition	• Offer open access and equivalence, creating a level competitive playing field for retail service providers • Facilitate any to any connectivity • Promote maximum end-user choice in terms of both services and providers
Cost effective	• Simplicity • Focus on uncontested infrastructure
Customer care	• Deliver appropriate network reliability, resilience and security • Allow secure simultaneous delivery of multiple applications with predictable levels of quality

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Full-Scale Construction Statistics

- Roll-out over approximately 9 years

- 10 million + premises in total

- Plus Greenfields (2 million +)

- 5,900 premises per day

- Contracted construction workforce of 15,000 FTEs at the peak of construction

- Work on First Release Sites on the mainland has commenced & nearing completion

- Second release sites announced

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93% Fibre + 7% (Wireless + Satellite)

Christmas Island

Cocos Island

Norfolk Island

Lord Howe Island
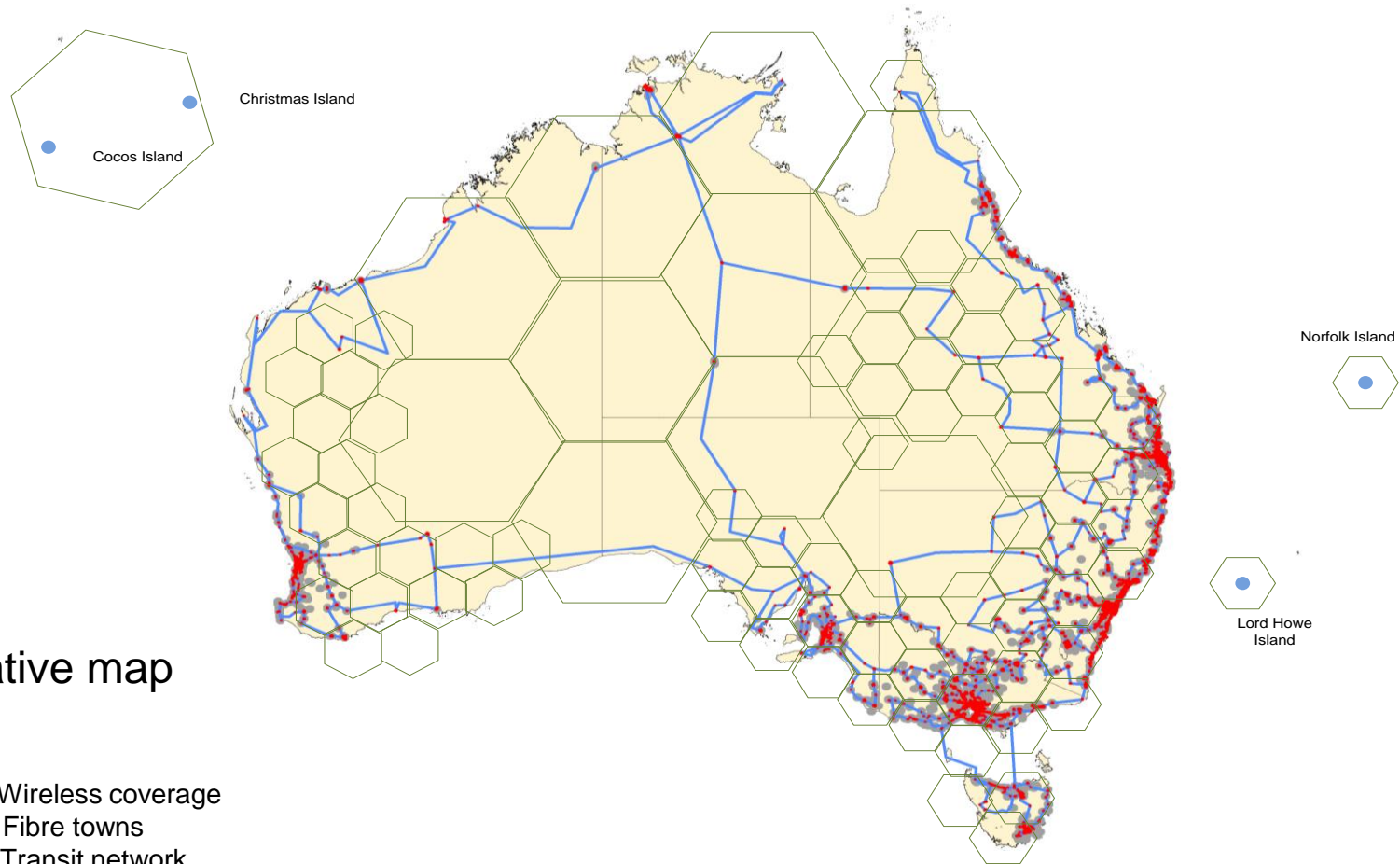
Indicative map

Legend:
Grey   Wireless coverage
Red   Fibre towns
Blue   Transit network
Green   Satellite coverage

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2011: Building, testing, onboarding

1 — 1st & 2nd Release Fibre construction

2 — Finalise Telstra Agreement

3 — Greenfields

4 — First Release Trial and Onboarding program

5 — Interim Satellite

6 — Development of the wireless service

7 — Deliver Corporate Plan Milestones

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NBN Co National Update: Key Activities

- **ACCC Decision**
  ACCC decision regarding Points of Interconnect (POIs) required NBN Co review of network design to build new, and upgrade some old, parts of the network
  Eg. Utilising telephone exchanges as Fibre Access Nodes (FANs).

- **Telstra Negotiations**
  NBN Co negotiations to use Telstra infrastructure are close to being finalised
  The deal with Telstra will lead to less community disruption and reduce rollout costs
  It is therefore better for residents and better for taxpayers to await this agreement

- **Wireless**
  3 year construction roll-out
  12Mbps down/1Mbps up

- **Satellite**
  Initial service roll-out scheduled for 3rd quarter 2011
  NBN Co is designing and building its own Satellites

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Telstra / NBN

Disconnection

Infrastructure

Copper
- Progressive disconnection
- Traffic migrated to NBN
- NBN Co pays Telstra per disconnection

HFC
- Progressive de-activation except Foxtel
- Traffic migrated to NBN
- NBN Co. pays Telstra per disconnection

Ducts & pits
- NBN Co uses of fit-for-use infrastructure within NBN network design

Lead In conduits
- NBN Co uses fit-for-use conduits which are connected into ducts NBN Co. uses

Backhaul
- NBN Co uses dark fibre

Exchanges
- NBN Co uses rack space in Telstra exchanges

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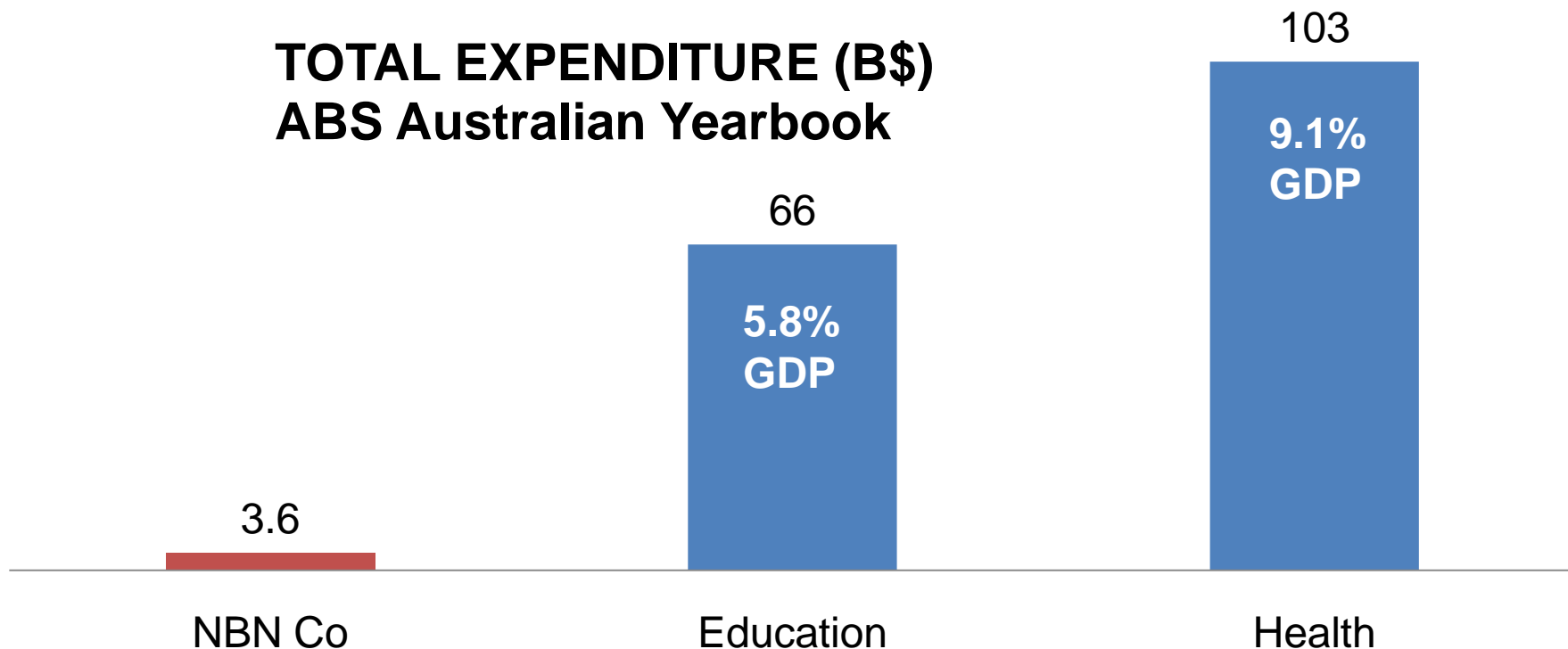Limited

Ubiquity and Standardisation

- In the volume rollout, Retail Service Providers will be able to reach any customers in a region, using any of the three technology platforms

  — From the same Point of Interconnect
  — From the same network interface (NNI)
  — Using the same BSS interface
  — Using the same processes
  — At the same price for same/similar product

- Ubiquity with standard products/processes is critical for public applications such as eHealth and eEducation

As important as the speed and throughput improvements

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Industry Opportunity:
Reduce Costs, Improve Service Delivery

TOTAL EXPENDITURE (B$)
ABS Australian Yearbook

103

9.1%
GDP

66

5.8%
GDP

3.6

NBN Co   Education   Health

Source: http://www.abs.gov.au/ausstats/abs@.nsf/mf/1301.0

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Health Opportunities:
Cost Savings, Improved Services

- Chronic Care → Video Consultations

- In Home Aged Case → Monitoring, Social Inclusion

- Digital Health Records → Large Images, Ubiquitous Access

- Self-help, Preventative → Information, Networks

- Specialist Consultations → Improved, Global Access

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Pricing of Wholesale Services

1. Access price scale

($/month per Service - Excluding GST)

Downstream/ (Mbps)	Upstream/ (Mbps)	Fibre	Wireless	Satellite
12	1	$24	$24	$24
25	5	$27	-	-
25	10	$30	-	-
50	20	$34	-	-
100	40	$38	-	-
250	100	$70	-	-
500	200	$100	-	-
1000	400	$150	-	-

2. Connectivity pricing

- Connectivity is sold as capacity (Mbps) and can be seen as a **proxy for usage** (GB/month)

- Additional capacity is available to the RSP in increments that allows them to control their own quality of service

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Premises Passed or Covered (incremental year-on-year)

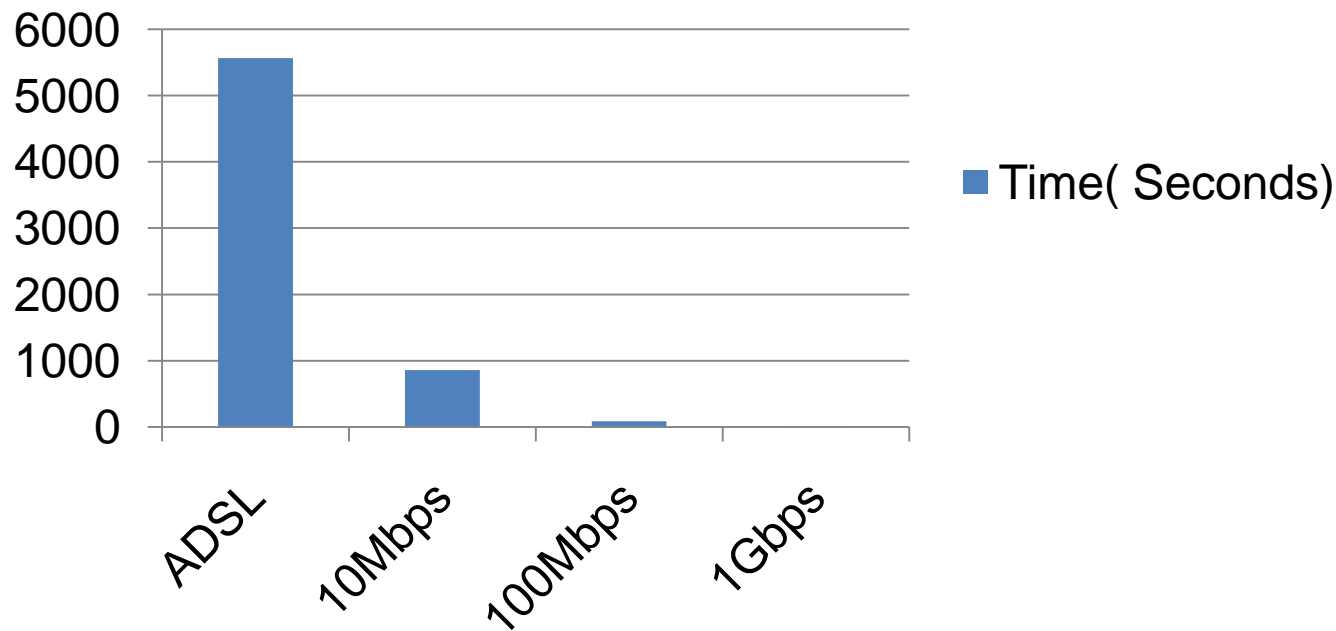|	FTTP Brownfields	FTTP Greenfields Build	FTTP Greenfields BOT	Satellite First Release	Wireless	Total
June 2011	13,000	-	45,000	165,000	-	223,000
June 2012	132,000	7,000	120,000	-	14,000	273,000
June 2013	805,000	63,000	84,000	-	269,000	1,221,000
Total	950,000	70,000	249,000	165,000	283,000	1,717,000

Source: NBN Co

Note: Premises rounded to the next thousands.
A premise is passed / covered when the shared network and service elements are installed, accepted, commissioned and ready for service which then enables an end user to order and purchase a broadband service from their choice of retail service provider.

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Large File Transfer - 1 GB File
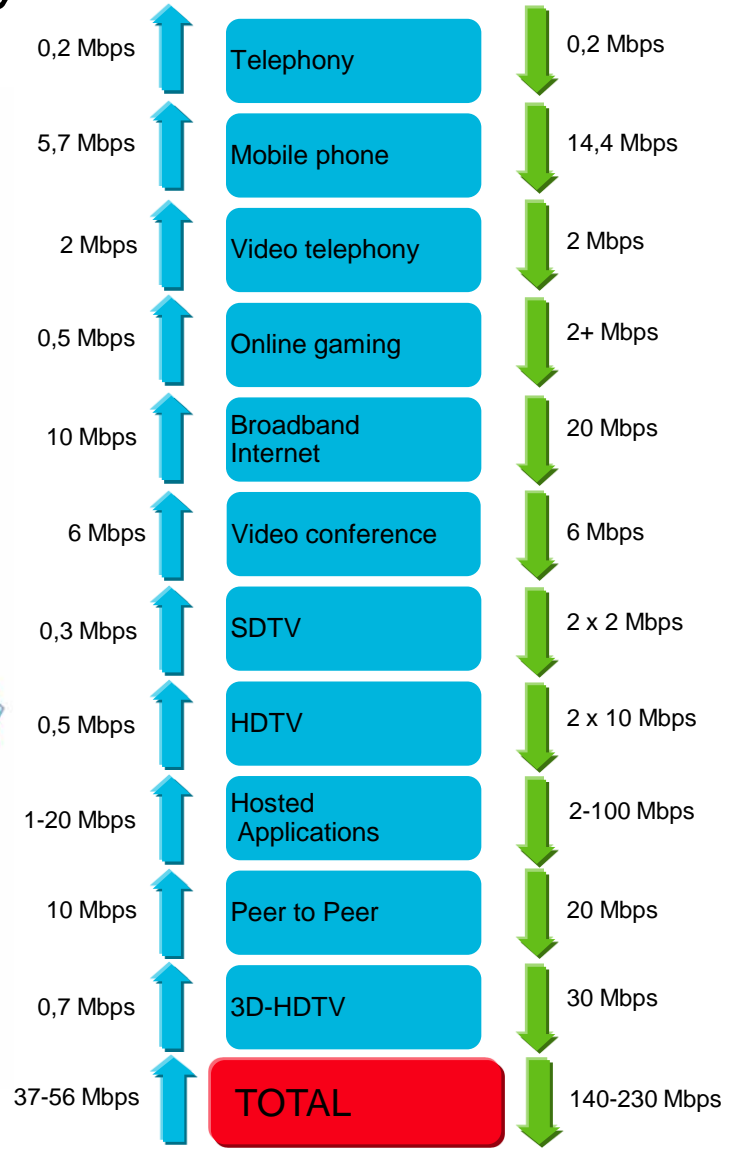
- Dial-up   56kbps   42 Hours, 36 Minutes, 31 seconds
- ADSL/T1   1.5Mbps   1 Hour, 32 Minutes, 43 seconds
- ADSL2+   ~10Mbps 14 Minutes, 19 seconds
- Fibre   100Mbps 1 Minute, 25.9 seconds
- Fibre   1 Gbps   8.59 seconds

Source: Data Transfer Speed Calculator http://www.t1shopper.com/tools/calculate/downloadcalculator.php

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Residential bandwidth demand quickly reaches 100Mbits/sec

	Upload		Download
0,2 Mbps	↑	Telephony	↓ 0,2 Mbps
5,7 Mbps	↑	Mobile phone	↓ 14,4 Mbps
2 Mbps	↑	Video telephony	↓ 2 Mbps
0,5 Mbps	↑	Online gaming	↓ 2+ Mbps
10 Mbps	↑	Broadband Internet	↓ 20 Mbps
6 Mbps	↑	Video conference	↓ 6 Mbps
0,3 Mbps	↑	SDTV	↓ 2 x 2 Mbps
0,5 Mbps	↑	HDTV	↓ 2 x 10 Mbps
1-20 Mbps	↑	Hosted Applications	↓ 2-100 Mbps
10 Mbps	↑	Peer to Peer	↓ 20 Mbps
0,7 Mbps	↑	3D-HDTV	↓ 30 Mbps
37-56 Mbps	↑	TOTAL	↓ 140-230 Mbps

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RDA engagement and Local Government planning

This checklist provides a guide for RDAs and local councils as to some of the information NBN Co and its contractors may need to assist in the NBN planning process.

- Zoning maps and planning controls
- Identification and location of heritage conservation areas and / or heritage items (both indigenous and non-indigenous)
- Location of environmentally significant areas e.g. conservation / protected areas, national parks / nature reserves, wetlands, bushland, significant street trees
- Any specific local planning controls, policies or codes that may apply specifically to telecommunication facilities
- Confirmation of any local exemptions, restrictions or prohibitions for telecommunication facilities
- Development application requirements (if necessary), including likely timeframes, processes etc.
- Location of Commonwealth land and education, health or government facilities
- Location of major development proposals and areas (e.g. greenfield sites), major infrastructure locations or areas that require major upgrades to infrastructure

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First Release Site experience: Armidale

- Direct peak workforce of up to 140 people employed through the principal contractor and subcontractors

- Large number of local businesses benefited from direct and indirect participation:

Civil contractors	Environmental specialist & surveyor
Electrical contractors	Waste removal companies
Fabrications companies	Mechanical repairers
Transportation companies	Hardware stores
Concrete, sand, and soil suppliers	Office space & depot suppliers
Plant & machinery hire	Local Ridgey Didge pie shop

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Community Engagement Guiding Principles

- Proactive and timely engagement of stakeholders

- Ensuring responsiveness to stakeholders

- Delivering and honouring commitments made

- Clear and timely provision of information

- Ensuring representativeness of stakeholders

- Timely and appropriate risk identification and issue escalation

- Continuous evaluation and improvement of community engagement activities

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Co-investment & Network Extension

- **Co-investment Projects**
  - Opportunities for leveraging third party construction projects to reduce the community impact or cost of rolling out the FTTP network and the wireless network within the existing (or planned) footprint
  - Engagement: State Governments, Utilities and Local Government
  - Examples: Undergrounding Power, Network Maintenance/Upgrade, Streetscape Work, New Bridges, Roads or Rail corridors, Radio Towers, Land Developments (other than Greenfields)

- **Network Extension**
  - Propositions put forward by third parties to extend the 'fibre footprint' beyond the intended 93% coverage or extend the fixed wireless coverage by co-funding the establishment of additional infrastructure
  - Engagement: State and Local Governments, Businesses, Individuals
  - Framework under development

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Co-investment Project – Key Principles

1. New Infrastructure or Upgrade/Maintenance Existing Infrastructure

2. In the planned Fibre or Wireless Footprint

3. No suitable Telstra infrastructure available in same location

4. Meets NBN Co Reference Architecture

5. Falls within the 3-5 Year Build Schedule

6. Simple Commercial Structures

7. Excludes Greenfields

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NBN Co Fibre in New Developments (Greenfields)

- During the National Broadband Network rollout, an estimated 1.9 million new premises will be constructed across Australia.

- NBN Co will be providing fibre infrastructure to all new broadacre developments and infill developments of +100 premises within the NBN fibre footprint.

- NBN Co plans to pass around 320,000 premises in Greenfield estates by June 2013.

- Since 1 January 2011, NBN Co has received more than 200 online applications submitted by developers.

Broadbanding Australia

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