

Additional notes by NAT
Some more questions and answers...

Some of the following notes were taken by Nat in relation to a bunch of questions put to the NBN crew at a meeting with NAG prior to the community info session on the 29th May.

More Q+As have been added since the info session. Note: This is the latest update as of 21 July 2103.

ITEM	Discussion etc
1. Consultation process	<p>Consultation is required under the ISEPP (State Environmental Planning Policy – Infrastructure 1997). Consultation under the EP&A Act for DA is typically less in comparison by way of process however, NBNC0 generally carries out our consultation over and above this requirement.</p> <p>The NBN consultation process in fact notifies all landowners from between 500m to 1km from any FWN site as matter of good practice (i.e. exceeding legislative requirements). Further – we have identified that our consultation process needed to be sympathetic to the Nimbin community and therefore recognised that a greater level of consultation is required here.</p> <p>The process is:</p> <ul style="list-style-type: none"> • NBN meets with local councils around preliminary network plans. • Council provides feedback based on local knowledge and NBN takes this into account to shape the network design. • Council advises key stakeholders in any LGA (e.g. Progress Associations). • NBN develops network plans for area proposing sites • NBN then undertakes the consultation process regarding the proposed sites (for FWN Facilities).
2. Where are we now in relation to the process above?	<p>This meeting and the info session on the 29th May is for the purpose of informing the community and NBN gauging community sentiments around Fixed Wireless being delivered as a service to the community. This will feed into NBN’s consultation plan to Council.</p> <p>The proposal will then come back to the NAG and NAG can advise on around possible infrastructure locations.</p>
3. Infrastructure co-location – the proposed Telstra mobile tower. Will NBN and Telstra	<p>Ideally all carriers are encouraged to co-locate with each other on infrastructure; however, this is not something NBNC0 could force Telstra to do. If Telstra is interested in collocating with NBNC0 then</p>

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work together?	we will be more than willing to work with them to come up with a single infrastructure solution to minimise infrastructure proliferation at Nimbin.
4. Is there any chance at all that Nimbin can get fibre to the village?	<p>Nat pointed out that we have a hospital; a busy police station; several schools etc. and Nimbin cannot be compared to villages such as Dunoon etc which are also listed for the FWN. That around 2000 people come to use the PCs at NNIC every year to access ADSL broadband.</p> <p>Answer: The threshold is committed at 1000 households in a population area – please note NOT 1000 people but 1000 actual premises. The Nimbin community does not meet these criteria. There are towns with 900 houses which do not qualify for fibre. It is based on economy of scale and economic viability and is vigorously test. The cost of either fibre or fixed wireless or satellite is included within the NBN Co project and the correct and appropriate technology needs to be deployed based on premises density. Fibre is not able to be economically deployed to villages or towns under the threshold (1000 prem in a compact location), and fixed wireless or long term satellite is the technology once you are outside of a dense development of more than 1000 premises.</p> <p>Q: But what about all the planned development for Nimbin? What if we reach 1000 premises in the future? A: NBN Co will install fibre into new developments of 100 premises (dwellings/units) or more, released over a three year period, which have received approval (relating to civil works) after the commencement date, within the NBN fibre footprint.</p> <p>The fixed wireless network has scope to cater for smaller developments and increases in demand in the short term, and for the long term there is capability to place additional equipment at each site to increase the capacity.</p> <p>The FWN still accesses the fibre to get back to the overall NBN network. Each FWN site then talks directly to the subscribers via antennas on their homes.</p>
5. We have heard there is a lot of fibre infrastructure already installed around the	The availability of existing (other carrier or unused (dark Fibre)) is not significant in the viability of a village below the 1000 premises threshold getting connected directly via fibre. The vast majority of

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<p>region including around Nimbin. What is this for and why can't this infrastructure be utilised to bring fibre to the Nimbin village etc?</p>	<p>the costs relate to the civil works to connect each and every premise to the new local fibre network, and the enablement of the local exchange. The only criteria that determine this is a dense group of small blocks (town blocks), with at least 1000 premises accessible within a fibre service area.</p>
<p>6. If the community won't agree to towers what then?</p>	<p>The only other option is satellite for Nimbin.</p> <p>The community of Nimbin will have the option to decide to take up the NBN service or not. In an area of either Fixed wireless, or long term satellite the service is in addition to whatever services may be available, and people have a choice if they wish to take it up.</p> <p>Copper will be retained for 10 years with a review and possible further 10 years after that. Then it will be completely decommissioned. So existing ADSL will continue for the next 10 years. TUSMA is the govt regulatory body http://www.tusma.gov.au/</p>
<p>7. What about signal drain/demand saturation – will we end up with more and more towers over time to manage data demands?</p>	<p>NBN Fixed Wireless Network is completely different to mobile networks.</p> <p>NBN's fixed wireless network is engineered to deliver services to a fixed number of premises within each coverage area. This means that the bandwidth per household is designed to be more consistent than a mobile wireless service, even in peak times of use.</p> <p>The NBN FW network has been designed to cope with normal, iterative growth without the need for additional equipment. Although many facilities can service up to 500 simultaneous premises, in reality many of them are servicing fewer than this depending on the size of the community, so the network has a lot of ability to handle growth in capacity / demand as regional community's grow. To this, NBN Co envisages these two facilities at Nimbin will service the community many years into the future.</p>
<p>7. What is the nature of the signal and what are the possible health and environmental impacts?</p>	<p>The Fixed Wireless Facilities give off an ambient radio signal into the environment. This signal "falls to the ground" some distance from the facility, similar to water coming from a garden hose. Premises right under or next to a facility would receive a lower signal than those at the distance where the signal falls to the ground.</p> <p>However, it should be noted that the signal levels at any given location all meet Aust Health Standards. NBN Co fixed wireless installations typically are many thousands of times below the relevant health standards</p>

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	<p>This signal is nothing new – we have been living with radio and TV signal for many years. A TV tower uses 50,000 to 100,000 MW of power to run it. NBN towers need only 40 watts to run. The signal coming from the NIM FM antenna would be much greater than that from any NBN tower.</p>
<p>8. Unfortunately the Nimbin community is not very confident about “standards” and may need more proof that the technology is safe.</p>	<p>Michael Bangay will be coming on the 29th. He previously worked for ARPANSA that had set the national health standard. He is a keen beekeeper and a scientist. He has done public environmental testing for some communities (e.g. Artarmon) who were concerned about the effects of signals and environmental signal levels.</p> <p>He may be able to do such a public testing here in Nimbin.</p>
<p>9. What about aesthetics?</p>	<p>Towers can be painted – usually a eucalyptus green type colour. Black is the least visible. NBN advises against blue which is highly visible on any cloudy days etc.</p> <p>Can also make a feature out of the tower e.g. rainbow colours. NBN is open to this.</p>
<p>10. If Nimbin does not agree to the 2 towers will this affect neighboring communities?</p>	<p>The NBN tower network operates like a daisy chain where each tower talks to the next one. The two Nimbin towers are at the end of a daisy chain so if they do not go ahead this will not affect other communities.</p>
<p>11. If the towers must be in line-of-sight to the antennas on premises, what is the impact of hills and trees etc?</p>	<p>Hillsides facing away from the towers may not get connection. North end of Tuntable for example.</p> <p>Where houses are covered by tree canopy they will not be able to ‘see’ the satellite either. It may be possible to locate domestic antennas/satellite dishes on a property where there is a gap in the canopy, if this is not possible on the roof.</p>
<p>12. What are the energy consumption implications of switching to FWN, compared to e.g. an ADSL router? We have heard that the energy use of fibre technology at the consumption end is very high?</p>	<p>The average power consumption of the wireless NTD is as follows: 9 watts – At idle 12 watts – When active The NTD must be left powered on, even if not in direct use by the end user, as this device forms part of the NBN Co network and needs to be accessible for ongoing essential maintenance. This maintenance can only occur when the device is on".</p> <p>The 9 watts standby, while not huge, it is a disappointment (e.g. 216 Wh/ day or about 1 kWh or unit every 5 days. (If you were on solar you would need about an 80 watt panel to compensate for the standby power.)</p>
<p>13. NBN Co advises that the towers only use 40 watts or</p>	<p>Whilst the output of an NBN Fixed Wireless facility is only 40 watts per sector, the majority of the power consumption is for the air conditioning units in the Outdoor Distribution Unit and running the</p>

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<p>so. How much power is being supplied to the towers, we have heard 350Kw. What are the potential applications for these towers to need so much power? Why do they need so much power?</p>	<p>electronics, generally there is only 8Kw of power going into the Outdoor Distribution Unit.</p>
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<p>14. It seems that numerous communities e.g. Tuntable may not be able to access either the NBN FWN or satellite. Given the number of premises who it seems may not benefit at all from anything other than fibre... can we get fibre rolled out to places like Tuntable?</p> <p>If not then what will become of these localities when the copper is decommissioned? Will they actually end up worse off than they are now as a result of the NBN rollout?</p>	<p>There may be certain locations what won't be able to access fixed wireless due to terrain or that they are outside of the fixed wireless footprint, these properties will have access to Satellite technology. In fixed wireless and satellite areas, NBN Co will be providing a broadband service only. The copper phone line will remain in place to provide a telephone service for up to 20 years. 10 years with a further option of 10 years).</p> <p>The Telecommunications Universal Service Management Agency (TUSMA) is responsible for managing the arrangements. For further information or enquiries relating to TUSMA, please email contact@tusma.gov.au</p>
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<p>15. How will weather affect reception? Nimbin is a high rainfall area and there are a lot of cloudy and wet days.</p>	<p>The fixed wireless network engineering caters for this and the margin of design allows for this type of weather terrain in the area.</p>
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<p>16. When the copper is decommissioned what happens to telephone services? We have the same issues with mobile phones as we do NBN - likely to be patchy service even with towers etc.</p>	<p>In areas where fibre is rolled out to the premises the copper will be switched off approximately 18 months after the area has been completed with fibre installation.</p> <p>In fixed wireless and Satellite areas, NBN Co will be providing a broadband service only. The copper phone line will remain in place to provide a telephone service for up to 20 years. 10 years with a further option of 10 years).</p> <p>The Telecommunications Universal Service Management Agency</p>
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17. How has NBN Co arrived at the figures for the density of housing in the area? Does it take into account all the premises on the MOs for example? Would it make a difference to our eligibility for fibre if we could establish that the actual density of premises in the area is in fact 1000 or more?	NBN Co arrives at its figures sourced and validated from a number of Federal and other Government databases. Shared accommodation including multiple occupancy is determined a single premises whereas official multiple occupancy are eligible to receive multiple connections. Analysis has been completed for Nimbin area and determined it does not meet required eligibility criteria for fibre.
18. Is it possible to get fibre to the hospital and the school at least? Can they be linked to the fibre at the exchange?	NBN Co will not be providing fibre to the township of Nimbin. (Please see Question 4).
19. If a community of less than 100 got together to pay for the costs of full fibre, would the NBN Co then consider installing it?	The Government has encouraged NBN Co to develop a process for a community, individuals and groups to fund the extension of the fibre or fixed wireless network to areas where it would otherwise not be built. This process is called the Network Extension Program. Through this process NBN Co will consider applications to extend the fibre network to properties outside the fibre footprint. The Government expects that applicants will cover the incremental cost of the design and construction of Network Extensions. In other words, the extra cost of building a different network technology to a premises than was planned in NBN Co national rollout. For further information on the Network Extension program as well as online application form is available at www.nbnco.com.au/networkextension
20. Cost: We are told that connection costs will be similar to	NBN Co doesn't sell direct to the public. NBN Co is a wholesale company who sells its wholesale broadband products to retail service providers (telephone and internet service providers).

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<p>ADSL2. But what about data costs? How much per Mb or GG? If data can be downloaded a lot faster than does that mean the overall total cost will be much greater for consumers as they will use up data a lot faster?</p>	<p>A standard installation of NBN equipment is free of charge. However service providers may have other charges, such as set up or activation fees.</p> <p>There's a range of competitive packages available from a number of providers. There are also a number of independent websites that provide comparison of retail broadband plans and pricing.</p> <p>Whistleout: http://www.whistleout.com.au/Broadband NBNCOMPARED: http://nbncompared.com.au/</p>
<p>21. At present on the copper lines, some rural properties have 2 separate lines and 2 separate internet connections (i.e. on different accounts). Will FWN allow more than one account per property?</p>	<p>The NBN installed Network Termination Device (NTD) enables up to four separate services coming into the one premises as there are four Ethernet ports each enabling a separate service.</p>
<p>22. Is it possible to send data down power lines and via power cables in a house? (i.e. instead of having towers/FWN?)</p>	<p>This is not part of the technology mix that NBN Co has been charged to deliver, which is high speed broadband services via the three technologies of fibre, fixed wireless and satellite.</p>
<p>23. Are the current terms and conditions for NBN, particularly the cross subsidising of costs, if any for FWN, locked in. How secure are they from a change of government?</p>	<p>The National Broadband Network (NBN) Corporate Plan is available on the NBN Co website http://www.nbnco.com.au/about-us/corporate-plan.html The Corporate Plan clearly states our assumptions, how we intend to build and operate the network. Alongside the financial forecasts, the plan includes details on construction, network design and wholesale products to be offered over the NBN.</p> <p>The National Broadband Network is a Government Business Enterprise (GBE). The job of a government business enterprise is to implement and execute the instructions given it by the government of the day.</p> <p>Your question relates to government policy and should be directed to the Department of Broadband Communications and the Digital Economy www.dbcde.gov.au</p>
<p>24. The FWN presumably uses encryption to secure data. Are you aware of any</p>	<p>All of the NBNC Co systems are secured to International Best Practice, including those specifically of the international wireless (LTE/3G) standards (cite 3GPP standards if you like), and that the</p>

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<p>backdoors that the government, domestic or foreign, has on these technologies? Can you assure us of privacy? (concern raised due to the recent PRISM incident)</p>	<p>encryption on the interface standards of the wireless networks are very strong since the application of the 3G standards.</p> <p>All Australian Carriers and Carriage Service Providers ('C/CSPs' in accordance with the regulations) are required to comply with the Privacy Act, and 'Lawful Access' and 'Assistance' requirements of the Telecommunications Acts.</p> <p>NBNCo or any other Australian Carrier cannot ethically or legally accept requests or provide any information to foreign governments or Law Enforcement agencies, only the prescribed Australian Agencies may issue warrants or seek 'Assistance' and these are enshrined in the Telecommunications Acts.</p> <p>We ask any further questions regarding National Security or Acts of Parliament regarding Telecommunication should be referred to the Attorneys Generals Department directly.</p>
<p>25. Is VDSL an option for Nimbin?</p>	<p>The National Broadband Network is a Government Business Enterprise (GBE). The job of a government business enterprise is to implement and execute the instructions given it by the government of the day.</p> <p>This is not part of the technology mix that NBN Co has been charged to deliver, which is high speed broadband services via the three technologies of fibre, fixed wireless and satellite.</p>
<p>26. How many meters deep are the different sized towers anchored into the ground?</p>	<p>This is specific to the structure type and soil condition. Once we have firmed up a proposed location, a geotechnical survey is required to be carried out to determine the soil type which will allow for the specific foundation design of the structure proposed for that specific location.</p>
<p>27. Have any provisions been made in regards to consulting with the local indigenous communities about towers so close to sacred sites (Mountain Top/ Lillian Rock)?</p>	<p>NBN will consult with all necessary affected and interested parties and if it is established that there are local indigenous community at any of the locations for the proposed FW facility then NBNCo will engage with these communities as part of our community consultation process.</p>

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