



Peter McDougall  
CCI Broadband Team  
Department for Business, Innovation & Skills  
1 Victoria Street  
London SW1H 0ET

Email : peter.mcdougall@bis.gsi.gov.uk

Date: 1<sup>st</sup> April 2010

## **Response to BIS Consultation on Proposals for a Next Generation Fund**

### **Executive Summary**

The Independent Networks Co-operative Association is a new organisation which comprises a range of businesses, public and community sector organisations working to deliver next generation broadband throughout the UK.

The majority of these organisations are seeking to deliver fibre to the premises which we believe to be the most desirable outcome for the UK.

We start from the premise that some public investment in next generation access will be necessary and that central government will provide up to £175m per year under the Government's proposed landline levy, or approximately £120-130m per year (starting in 2012) under Conservative proposals to use the portion of the BBC licence fee currently allocated to digital switchover. These funding proposals may, of course, change dramatically after the General Election.

We believe that the best way to use the funding available under the Next Generation Fund is to encourage the development of regional, sub-regional and local partnerships working to realise next generation broadband in their areas. In this way the funding can be used as gap funding, thus making viable what would otherwise be a marginal business case for deployment.

During the course of preparing this response INCA has consulted widely amongst its supporters seeking comment and input. A list of those consulted is appended.



### **1. We welcome responses to any aspect of this consultation.**

This is an important consultation. The UK has been slow to develop next generation broadband access and today does not figure in the Fibre to the Home Council national rankings<sup>1</sup> – we have less than the 1% of connections necessary to enter the league and at least sit on the bench alongside countries like Bulgaria, Latvia, Estonia, let alone Korea, Japan, China, the USA, Netherlands or Sweden. The Next Generation Fund offers a mechanism to support roll out of next generation networks in areas beyond the reach of the commercial market. At a BSG/COTS meeting on 29<sup>th</sup> March a representative of Swedish firm Net Admin estimated the UK to be 5 years behind some of the leading nations in terms of deployment.

### **2. Do respondents feel that the cost analysis for fixed-line Next Generation Access is still valid, and if not, what are the latest estimates?**

The Analysys Mason report for BSG of September 2008 estimated the cost of deploying FTTC on a national basis at around £5.1 billion and FTTH nationally at £25-30 billion. Experience from a number of local schemes under development shows that this can vastly overstate the real cost of deployment, depending on assumptions for civil engineering costs, return on investment and take up levels.

The problem with the dissemination of inflated cost estimates is that it has encouraged the view that FTTC may be, pragmatically, a preferable solution to FTTH. However, FTTC tends to be favoured only by those with legacy copper networks and is not widely deployed in other countries. New entrant networks would obviously gain no advantage from FTTC, as they have neither cabinets nor last mile copper in place. Even though the capital expenditure required for FTTC may be smaller than for FTTH, the operating costs of such a network are likely to be higher. European incumbents are shifting towards FTTH over VDSL, including Telefonica, KPN, Swisscom and Belgacom.

### **3. What do respondents feel is the minimum bandwidth requirements, both download and upload, in order to qualify as a Next Generation broadband service? Are the requirements above regarding quality of service, including latency and reliability sufficient? What figures should we set on the bandwidth requirements?**

Given that we believe that point to point FTTH is the optimal solution and should be favoured over FTTC, then the question of “minimum criteria” becomes somewhat immaterial. The capabilities of such networks are almost limitless. The pace of fibre bandwidth innovation today is such that higher and higher speeds are becoming affordable. It would be foolish, therefore, to restrict the capability of an NGA network to parameters specified now by one network operator. Product differentiation and innovation should not solely be in the hands of the network owner.

---

<sup>1</sup> See [http://www.ftthcouncil.eu/documents/press\\_release/PR\\_EU\\_rankings\\_Lisbon\\_Final.pdf](http://www.ftthcouncil.eu/documents/press_release/PR_EU_rankings_Lisbon_Final.pdf)

Customers using a point to point FTTH network would expect 100 Mbit/s as standard. Importantly, the service provided should be as close to symmetric as possible, as the networks of the future will be used for uploading as much as downloading, and for high upstream bandwidth applications such as video.

What is more important, is how fibre networks are utilised and what competitive models are facilitated. FTTH should be regarded as a utility, offering access to multiple service providers (from both private and public sectors). We support the notion of open access networks to facilitate maximum competition in service provision and consumer choice. We also support proposals in the ALA standard for multiple virtual LANs (VLANs) available through each connection. This means that a service provider will not be given exclusive access to the subscriber, offering opportunities for the development of innovative new services and business models. For example in this new environment public sector agencies, such as the NHS, can become service providers. By using one of the VLANs on an FTTH network the NHS would be able to deliver high quality tele-medicine applications irrespective of the Internet (bandwidth) package purchased by the subscriber.

This has important ramifications for the economics of network roll-out since multiple service providers contribute both to the network costs and potentially reduce the investment risks inherent in next generation projects.

#### 4. Do respondents have views how the Next Generation Fund will be used and in particular the focus on fixed line solutions?

As explained in our answer to question 8 below, we believe that the Fund should be used to provide gap funding to local consortia or partnerships. Wireless solutions have an important role to play for mobility and in aspects of network design and deployment, but on the whole the aim should be to get fibre to every premises whenever possible. However, some projects may consider, for example, wireless links useful to connect particularly remote residences. Consequently elements of non-fixed line solutions should not be precluded. The projects competing for funding should be judged on their merits as a whole.

#### 5. What minimum criteria should we be looking at, bearing in mind the need for value for money, equity and flexibility?

The consultation document suggests that FTTH would be too expensive and would not, therefore, offer value for money. However, as we explain in our answer to question 8 below, we do not believe that the fund can or should be used to fund entire projects or regions. We believe that the Next Generation Fund should be used to gap-fund regional projects, with a preference for FTTH.

There are already projects under development which show how various public/private approaches to next generation access can bear fruit – e.g. the Fibrespeed Project in Wales, South Yorkshire Digital Region, or the Corridor project in Manchester.

## 6. What applications and services would not be able to be run over a network that has the criteria outlined as a minimum?

Had this question been posed at the start of the first generation broadband revolution ten years ago, applications like free video-conferencing, connecting people globally, based on p2p networking (Skype) would have seemed fanciful. Paying bills on a Sunday afternoon using Internet banking would have seemed a stretch (smile.co.uk was invented in 2000). Accessing a global market place in which almost anything can be bought and sold, day or night (ebay) might just have been plausible. The ability to work from home, yet connect into corporate information systems would have been an aspiration – or ludicrously expensive (the cost of a leased line). Uploading the family photos – or holiday video – onto a social networking site was barely imaginable (Youtube started 2005, Facebook was created in 2004). Being able to find out almost anything you need to know in the context of an educational (or any other) project would have seemed an impossible dream (the Google IPO was in 2004, Wikipedia launched in 2001).

All of these things are now commonplace. First generation broadband enabled a revolution in the way that we communicate, learn, do business and share information.

Almost all existing services will run over current copper-based networks. But this misses the point. Some types of network are inherently more capable of sustaining innovative new services, new business models and new ways of delivering public services than others. FTTH offers the greatest scope for innovation on a scale greater than we experienced with first generation broadband since bandwidth will no longer be constrained by the physics of the network itself, and access to services will no longer necessarily be dependent on transit over one access provider ISP's network.

BSG touches on the issues from the perspective of some of today's large content providers in the white paper 'Broadband Infrastructure'<sup>2</sup> written with Value Partners and published on 25<sup>th</sup> March 2010. The BSG website summary says, '*Few respondents considered current broadband as a significant barrier to innovation today. Instead they suggested that it was just one of a series of end to end issues that needed to be considered when thinking about how to improve services for consumers.... Consumer expectations of quality are increasing as ever-richer data services, such as internet TV and cloud based applications continue to be brought to market. As a result service and application providers are starting to think about how they can manage end-to-end quality of service in the medium term (18-24 months).... The major players believe that next generation broadband will spur innovation and growth in new services and applications. However an upgrade in bandwidth alone will not cancel out the need to manage the multiple pinch points across the network, to guarantee good quality-assured end to end delivery.*'

---

<sup>2</sup> See <http://www.broadbanduk.org/content/view/385/7/>

**7. In your opinion, would a regional or National deployment be a more efficient and appropriate use of the Next Generation Fund, and why? What other options are open to HMG in creating competition in the procurement process?**

Current public policy does not favour a nationally mandated/funded roll out of NGA, as in the Australian FTTH example, and our view is that this is unlikely to change in the near future. Consequently the scale of funding likely to be available under current plans - or perhaps using funding from the BBC licence fee – can only be used to help improve marginal business cases. This implies combining the next generation fund with funding from other sources.

In order to maximise the potential for innovation in business models and funding we favour either a regional or a sub-regional approach. Regional, sub-regional and district partnerships will enable all the externalities to be taken into consideration (such as improved access to healthcare, increasing economic output and productivity of the area). We are confident that adopting this approach will maximise the benefit of the Next Gen fund – a much bigger bang for the buck.

However, it is vital that these regional networks do not become “islands of connectivity”, with no access to nationally provided services and content. It is therefore important for there to be a co-ordinated framework and set of standards within which these local networks can operate. This is a task that government has set for INCA.

**8. What do you consider to be the optimum procurement approach or commercial model that balances the public sector’s need to demonstrate value for money with private sector considerations?**

The Next Generation Fund is expected to produce approximately £1 billion by 2017 if derived from the 50p per month landline duty and a similar, though probably smaller, amount if derived from the proportion of the BBC licence fee dedicated to digital switchover, as proposed by the Conservative Party (not starting until 2012). This is insufficient to fund NGA rollout (whether FTTC or FTTH) in all of the areas which are unlikely to be served by the vertically integrated operators such as BT and Virgin.

In our view, the Fund would most effectively and efficiently be used to provide gap funding for regional and sub-regional projects. Money from the fund should be awarded to sustainable projects which have demonstrated financial commitment from local public sector (for example the local councils and the local NHS Trusts), private sector (including network operators and local businesses), local residents and the wider community (such as schools, churches, sports clubs and the homes for the elderly).

These public/ private/ community partnerships will have to work out the needs of their regions/localities, build and demonstrate demand, think about leveraging existing public and private sector infrastructure assets. Local authorities can be encouraged to use planning guidance to encourage private investment from developers, encourage other forms of public and private sector



infrastructure sharing, find other ways to reduce deployment costs (e.g. overhead powerline infrastructure, sewers, etc). Other parts of the public sector e.g. health and education can be encouraged to think about what type of connectivity they will require in future in order to provide more home-based services at lower cost, and how this procurement need can facilitate network deployment. The private sector and communities will need to be engaged to better understand the impact of next generation broadband and get involved in driving up demand. The overarching aim is to maximise innovation, reduce private sector investment risks, build effective local/regional partnerships and get a decent return on tax-payer investment.

The gap funding would be used to extend the network to those more remote parts of the community which it would not be economical to reach. If the Fund were to offer a specific amount of money per premises passed (in, for example, a rural area) for a fixed number of years, then this would encourage private sector investment that is not available without that stimulation.

Such models are becoming established in European broadband programmes. Co-operative and community ownership models are being deployed successfully, notably in the Netherlands and Scandinavia, involving local communities in determining their future connectivity. In the UK community engagement and ownership models have been used successfully for a range of services and projects for more 150 years. The government (Cabinet Office) is sponsoring action research into community share issues<sup>3</sup> in a diverse range of sectors including renewable energy and community services. At least one community-led next generation scheme is actively investigating a community shares model as part of the funding mix (Alston Fibremoor). As independent networks sector evolves it is worth noting that the current telecommunications infrastructure was not originally built as a homogenous, national network, but more like the patchwork quilt we envisage for next generation broadband.

The part played by the community and residents is important since it has been shown that stimulating and aggregating consumer demand acts as a spur to private investment, thus reducing the need for public funding and increasing long term sustainability. By working in conjunction with network operators and other private sector investors, rather than offering complete funding, the government would not be acting to the detriment of the competitive market.

The approach taken by Broadband Delivery UK could be through a competitive process similar to the Digital Challenge competition in 2007 and, before that, the “Wired Up Communities” programme that began a decade ago. A Next Generation Challenge like this would harness the dynamism and entrepreneurialism of regions and localities encouraging people to build the local partnerships necessary to successfully bid for the funding.

---

<sup>3</sup> See

[http://www.cabinetoffice.gov.uk/third\\_sector/news/news\\_stories/091029\\_communitysharesactionresearch.aspx](http://www.cabinetoffice.gov.uk/third_sector/news/news_stories/091029_communitysharesactionresearch.aspx)

**9. Would an “outside in” or an “inside out” approach to delivery be more effective and why? Are there other approaches that should be considered?**

Our favoured approach is not so much “outside in” as “bottom up”. As noted in paragraph 58 of the consultation document, there is likely to be a “patchwork” of networks in the UK. NGA projects seeking government funding should be locally-led consortia of public sector, private sector and community interest groups. It is up to those groups to define the boundaries of their project. They may wish to include areas which already have cable or FTTC, although those administering the fund might choose to favour projects which encompassed mostly largely rural or “final third” areas. New projects are unlikely to wish to include subscribers who are already served with FTTH, as it would not appear to make sense to duplicate such infrastructure.

**10. Where should the Next Generation Fund be used to intervene in the first instance, in terms of either location, or market deployment, in order to minimise the risk of distorting the market, and not chill planned investment?**

**11. What do you see the risks to competition from providing public support for NGA roll-out and how can these be mitigated?**

If the fund is only used to plug the gaps in otherwise sustainable projects, then this should not adversely affect the competitive market.

In terms of timing, we believe that the Government should start to award funding as soon as possible, since the UK already lags woefully behind many other competitor countries in its penetration of fibre to the home<sup>4</sup>. We do not believe that the Government should concentrate on implementation of the 2Mbit/s USC at the expense of NGA projects, especially as the two are to some extent inextricably linked. We believe that waiting until 2012 to begin awarding funds would seriously jeopardise the economic competitiveness of the UK.

There is nothing to be gained by waiting to see where “market deployment” (i.e. deployment by vertically integrated current generation broadband providers) ends. New consortia have as much right as current providers to create business models and bring them to the table.

The consultation document states that Virgin Media have covered “nearly 50% of all homes in the UK” with their “up to 50 Mbit/s” broadband service. It is worth noting that although their coverage areas theoretically cover 50% of UK homes, many homes in Virgin areas cannot access Virgin services. With BT’s FTTC-based services still offering “up to” speeds within the capabilities of VDSL using copper, one should not assume that all the homes in those exchange areas are able to receive “superfast” broadband.

---

<sup>4</sup> Source: Fibre to the Home Council Europe, February 2010

Consequently we believe that it is not for the Government to define geographic areas which should and should not receive money from the Next Generation Fund. It should be for those bidding for funds to make their case. Schemes that did not win first time round would have an opportunity to regroup and bid into subsequent years' funding.

**12. At what stage in the deployment cycle, such as time or penetration, should the Next Generation Fund cease intervention, and why?**

The money would be awarded by the fund at the start of the project as part of the overall funding package from central government, local public sector and private investment.

**13. Which areas of the UK should receive intervention from the Fund, and why?**

Any part of the UK would be eligible to bid for funding, but the Fund would favour those who promised the best and most sustainable projects and those including areas which are not commercially attractive.

**14. Should the Government consider a claw back scheme, once the return on investment reaches a certain level? 15. If so, at what level of return on investment should this begin, and how should this be determined? For example, you could implement a sliding scale that increases as the return on investment increases.**

We see no reason why tax payers should not see a return on their investment in the medium to long term. It is reasonable to expect a longer investment period (such as ten or twenty years before a return is realised) than has been the norm in the telecoms industry since the 1990s.

**16. Are there any other options HMG should consider to minimise deadweight?**

Under our proposal HMG would only be providing gap funding; there is no subsidy for "dead weight" as such, since they are only financing the part that could not get done without assistance.

**17. Do respondents feel that Government is right in insisting all networks built with the use of the Fund should be open access?**

We agree that infrastructure competition is unlikely given the cost of deployment and that all networks benefiting from the Fund should be Open Access networks in order to enable competition and encourage innovation and differentiation.

**18. Do respondents believe that active line access is the right approach to achieve fixed access competition? 19. Do respondents feel that the proposed product, Generic Ethernet Access (GEA) is adequate, and if not, why not?**



We support the ALA standards that are currently being produced by NICC.

We do not believe that Openreach's GEA product is relevant to this consultation document, since it is merely one operator's interpretation of Active Line Access. Other networks will be free to create their own access products, provided that they comply with NICC's ALA standards.

We also believe that it will be necessary to connect these island networks with a market place providing wholesale aggregation and backhaul services serving as an intermediary where content and service providers can do business. INCA is working with a range of commercial and public sector partners to define this B2B market place or Joint Open Network (JON).

**20. Do respondents feel that the same active access remedies should be applied in the areas that receive subsidy from the Next Generation Fund, or are there good reasons for not doing this?**

Regulatory remedies are imposed following a finding of significant market power ("SMP"). Where a market review has been conducted and an enterprise has been found to have SMP, we believe that no "regulatory holidays" should be given to owners of next generation access networks.

We believe that all next generation access networks, incumbent or otherwise, should offer standards-based ALA to prevent their subscribers being cut off from mainstream content and services. New entrant network owners are unlikely to have SMP and are likely to want to offer open access to their networks.

**21. How should compliance with any requirements to provide an active remedy be managed? For example, once you've imposed a supply obligation as part of a procurement process, what contractual provisions are necessary to ensure effective compliance, and how would these be enforced?**

**22. How might active remedies vary with time? For example, wavelength unbundling appears impractical now, but we expect it to become a realistic (and possibly attractive) option in 3-5 years time. How might the terms of any remedy imposed as a result of the procurement process be varied?**

In the next generation world that we envisage, with a range of operators and schemes, there needs to be a new marketplace in order to avoid fragmentation and the problems associated with 'islands of connectivity'. Work on the development of this market is being undertaken by an industry grouping assembled by INCA and others under the JON (Joint Open Network) umbrella, and through the BSG/COTs process. The point of this work is to construct a properly competitive market in which local networks offer a variety of products providing access to their customers to third party service providers. Over time the market for products will evolve, so that although today there is little if any market for wavelength access, in future this is likely to assume greater significance. Consequently it



is important that open networks have an evolution path for new product sets, encouraging as many ways of unbundling as possible. Participation in the market will depend on adherence to a common set of standards defining open networks. INCA has a role to play in helping to define and promulgate those standards.

The JON grouping has made a separate submission to this consultation on these issues.

### **23. What other measures could be looked at by Government in terms of passive access, in order to introduce greater competition?**

There has been much recent discussion about access to BT's passive infrastructure by alternative providers. We are in favour of opening up such infrastructure, whilst recognising that it may be of limited value, particularly in more remote and rural areas.

We believe that equally important is access to other infrastructure whether in the private sector (e.g. Virgin Media) or public domain (e.g. ducts, sewers etc. owned by local authorities and others). Some local authorities have proposed creating duct atlases and providing this information to private sector operators aiming to build out. INCA supports this approach.

INCA also supports proposals to issue planning guidance to developers encouraging them to include passive infrastructure in their plans.

An aspect of deployment not touched upon here is the question of business rates applied to lit fibre. This is a long-standing barrier to investment that needs to be addressed. The Next Generation Fund offers an opportunity to turn unviable projects into viable ones. It would not make sense if the business rates regime then reduced their viability.

---

Drafted and submitted by:  
Louise Lancaster  
louise.lancaster@ayres-end.com

Malcolm Corbett, CEO INCA,  
Malcolm.Corbett@inca.coop  
Tel: 0845 456 2466  
Mobile: 07770 896534  
Skype: malcolmcorbett



## Appendix

Organisations consulted regarding this submission include:

Accelerate Nottingham  
Alcatel-Lucent  
Allied Telesis  
Alston Cybermoor  
BBC  
British Computer Society  
C&W  
CBN  
Cisco  
Communications Managers Association  
Commission for Rural Communities  
Connecting Bristol  
DC-10plus  
Digital Birmingham  
Gateshead Technology Innovation  
Geo  
Graeme Dent (formerly SY Digital Region)  
H2O Networks  
INCA Board members  
Independent Fibre Networks Ltd  
Manchester Digital Development Agency  
Net Strategics  
Plunkett Foundation  
Titanic Quarter