Broadband Connect and Clever Networks

Response to DCITA

Draft Program Guidelines

by

UtiliTel

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1. BACKGROUND

UtiliTel is an informal forum of electric power utilities that have been co-operating over the past several years to canvas and pursue mutual interests relating to their telecommunications assets. A number of UtiliTel members have commercialised their telecommunications activities and some hold carrier licences, or have otherwise moved to provide infrastructure or end services to the telecommunications industry.

From time to time several UtiliTel members have participated or shown interest in the various Government programs aimed at enhancing telecommunications services in rural and remote areas of Australia. Amongst the activities undertaken was the significant project to bring broadband services to regional centres in NSW, with 16 towns provided with optical fibre loops on power assets.

Together the power utilities have considerable assets, including substantial infrastructure in metropolitan, rural and remote areas, which appear well placed to support the aims of past and emerging programs. Assets include:

- Optic fibre links (dark and lit fibre) associated with major long distance power transmission routes
- Optic fibre links (dark and lit fibre) in built up areas servicing power sub-stations and associated facilities
- Microwave radio transmission links
- Prominent tower locations capable of supporting wireless facilities
- Rights of Way, including easements, pole routes and conduit systems which can facilitate telecommunications infrastructure deployment

Australian power utilities together have invested over $ 1 B in telecommunications infrastructure as a key enabler of core business operations. The facilities provided are to rigorous standards to meet mission critical requirements of the utilities' 24 x 7 essential service businesses. The incidental capacity, including through spare fibre, towers, and Rights of Way, is capable of supporting modern and effective public telecommunications applications. Approaches to enable the augmentation and support of these facilities are likely to deliver considerable benefits.

Many utilities have already built on their core business facilities to support telecommunications services across government, corporate, business and residential sectors, with over $ 500 M attributable to investment in commercial activities. Several have innovative pilots or commercial services on advanced technology platforms to bring highly capable broadband services to poorly served communities.

1.1 TRACK RECORD

The established commercial activity of power utilities in the telecommunications sector is widespread. It includes:

- Provision of long haul connectivity over major power transmission facilities;
- Provision of broadband transmission services in metro and country areas to telecommunications carriers or end users in metro and regional areas;
- Establishment of the significant alternative Fibre to the Curb access network in Canberra by TransACT, providing a truly competitive "triple play' alternative to corporate, business and residential customers in the nation's capital;
- Deployment and operation of several advanced access network pilots utilising a variety of innovative technologies including wireless (Country Energy in NSW), Broadband Power Line (Country Energy and Energy Australia in NSW) and Fibre to the Home (Bright, in Perth);
- Commercial pilot of next generation BPL in various locations in Hobart by Aurora Energy.

Overall, however, the extent to which the capability has been mobilised to provide enhanced telecommunications facilities and services has been limited, representing a minor portion of the potential available.

There is considerable scope to further utilise the capability inherent in power utility telecommunications and core business assets, provided an active and pertinent policy framework is developed by Government.

1.2 UNIQUE POWER UTILITY CAPABILITIES

The broad range of telecommunications activities noted above is indicative of the extensive established infrastructure and organisational capability inherent in the power industry. Aspects of particular relevance to Broadband Connect and Clever Networks include:

- Established organisations with depth of management and extensive skill set;
- Established operating philosophy for network based 24 x 7 service industry;

- Long haul fibre equipped power transmission systems with high capacity and reach into rural and remote areas;
- Increasing presence of high capacity fibre in access networks;
- Almost universal presence of distribution plant throughout Australia, often in overhead deployments making new fibre provision rapid and relatively inexpensive;
- Demonstrated capability to provide consumer broadband services to at least DSL equivalent standards through use of high capacity BPL technology;
- Ability and experience in utilising BPL for high capacity backhaul applications, facilitating deployment of broadband nodes (BPL, wireless or other) in difficult to serve areas.

1.3 OPPORTUNITY

Over the past several years power utilities have made significant commitments to demonstrating and in some cases commercially operating telecommunications services based on their unique facilities.

Together the experience and demonstrated potential serves to indicate that there is a real contribution to be made in mitigating the substantial disadvantage still suffered by Australians in rural and remote areas in relation to the availability of broadband telecommunications services.

Appropriate policy settings and the judicious use of the considerable funds set aside through Connect Australia (and in the future, the Rural Fund) presents an opportunity to redress the current inequity and establish the base for a competitive environment through which sustainable parity might be approached.

In our view a sustainable competitive environment requires genuine competition at the infrastructure level. Often this is difficult to justify for fundamental and widespread assets like long haul transmission and access networks. However, the demonstrated applicability of existing power assets in the telecommunications environment provides a unique opportunity to resolve this issue.

1.4 REMOVING OBSTACLES

Experience to date suggests that to achieve a desired competitive outcome a focussed and considered approach will be needed by Government. While significant early progress has been made, as cited above, there are in our view improvements possible in the funding arrangements contemplated.

In particular, we believe that the approach adopted (for example in past CCIF schemes where matching contributions were required) warrants review in order to establish a more flexible and productive scheme which better meets end services aims.

We suggest that the pursuit of Connect Australia outcomes this is not well served by mandating a dollar for dollar contributions. An optimal solution which does not require utilities to make cash contributions is more likely to see the established assets delivering benefits for rural and regional telecommunications. Schemes which give rise to a need for cash contributions for non core activities generate unnecessary internal processes in some utilities and may militate against an otherwise highly productive involvement in Connect Australia schemes.

We believe that in giving due consideration to past expenditure on telecommunications assets and to the benefits of real infrastructure competition, Government should seek all means to facilitate the active participation of power utilities in Connect Australia.

An integrated approach to Broadband Connect and Clever Networks has the potential to deliver such flexibility and derive the benefits in prospect, without creating unnecessary obstacles.

1.5 NEED FOR A STRATEGIC APPROACH

The Government's commitment of over $1 B in funding through Connect Australia to enhance telecommunications services in Rural and Remote areas is essential to meet developmental and equity needs. It is well recognised that effective broadband facilities are a significant factor in economic development, education and government service provision. Additionally, broadband connectivity is increasingly an enabler of advanced personal communications and entertainment access.

Past programs, the current Connect Australia commitment and the projected Rural Fund initiatives are evidence of the need for Government intervention if services in rural and remote areas are to approach those in well served metropolitan areas. Clearly, the developments in the telecommunications industry over the last decade have not delivered competitive services to all Australians.

Long term commitments, such as announced by Government, will serve to redress the imbalance and disparity evident. The scale of the committed funding is considerable, with a self evident need to be well directed and of maximum effectiveness.

To achieve this end we believe it important that the schemes focus less on treating the outcomes of the current telecommunications environment (that is, the significant deficiency in rural and remote areas) and address the fundamental causes. In particular, the schemes should target:

- infrastructure – given the lack of underlying delivery capability in many areas; and

- competition – ensure that the substantial funds being directed to rural and remote areas create a genuine competitive environment where there is long term commercial incentive for the continued enhancement of services to this market sector.

A long term sustainable solution to the current and future needs of users for effective and reasonably priced broadband must be based on fundamentals, and will entail the promotion of effective infrastructure competition. The lack of effective competition in access networks and backhaul infrastructure significantly inhibits innovation and choice for consumers in rural and remote areas, and should be a primary target of the funding schemes.

Adopting a strategic and long term view will have implications for the details of the schemes, and require an approach which can elicit strong commitments from prospective infrastructure providers to match that made by Government.

The key issues we believe should be addressed include:

- funding to reflect service availability in targeted areas rather than on a per service basis;

- funding which reflects the provision of infrastructure which can support a growth in capability and service functionality in future years;

- funding provided at least partially in advance of customer connections;

- targeting fundamental enablers, for example:

    - competitive backhaul and local access capability to ensure a variety of access networks deployed in rural and regional areas can connect effectively to major service centres; and

    - greater deployment of fibre and BPL in poorly served towns as a basis upon which multiple local access and wide area networks can be built.

- embedding competitive potential through an “open access” requirement for funded infrastructure;

- an integrated and strategic approach which recognises that considerable synergies are available across the Connect Australia programs. In particular, the initiative will benefit from the recognition that capability deployed to address one area of need will at limited marginal cost be able to support other targeted outcomes. (For example, fibre deployed to support backhaul for Broadband Connect supported services will generally be able to support Clever Networks applications and connectivity for Mobile Connect or other programs).

2. BROADBAND CONNECT and CLEVER NETWORKS

The Department's discussion paper notes in Section 2.1 that the Broadband Connect and Clever Networks components of Connect Australia are separate programs operating to their own set of guidelines. The paper acknowledges linkages and the intention for the programs to operate in parallel, and has recognised in S 4.1 that CCIF funded programs have had flow on benefits beyond primary service targets in that communities as a whole benefited from improved broadband capability.

In our view this is an important point and the potential benefits from a holistic approach to funding should not be lost:

- the overall outcomes for Connect Australia will be enhanced where funding recognises benefits delivered across multiple programs;
- regional proposals which call on funds from more than one program should be considered where broad benefits (eg against the objectives of Broadband Connect, Clever Networks and Mobile Connect) can be demonstrated.

A suitable process to implement such an approach can be adopted for at least part of the intended programs. It may for example entail:

- the identification of one or more contiguous regional areas where a deficiency targeted by Broadband Connect, Clever Networks and perhaps Mobile Connect programs is recognised;
- seeking competitive bids by infrastructure providers capable of delivering an effective broadband capability to meet existing and future service requirements under each of the programs;
- providing funding to a bidder to create the underlying infrastructure on an "open access" basis (ie open to retail service providers, application providers and mobile network operators);
- base funding on an up front contribution, payable upon delivery of the infrastructure; this may require an equitable apportionment of the incentive payments provided under Broadband Connect, allocation of a tranche of Clever Network funding and recognition of the value delivered to the Mobile Connect program.

In its submission[1] regarding Mobile Broadband Connect UtiliTel outlined a possible funding approach to the targeted promotion of infrastructure capability. We believe the underlying principles are equally applicable to the broader Connect Australia initiatives.

[1] UtiliTel, 15 December 2005, Submission in response to DCITA Mobile Broadband Connect RFI

3. ISSUES DISCUSSION – Q & A

The questions raised in the DCITA discussion paper are address in Attachment 1 below.

4. CONTACT

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ATTACHMENT 1

Addressing specific questions raised in the DCITA paper.

Section numbers which follow are those appearing in the DCITA paper.

3.2 Potential for innovation in program design

Q1 How can the design and delivery of Broadband Connect be optimised to achieve long term sustainable quality broadband solutions for regional, rural and remote Australians?

UtiliTel: Funding support which addresses fundamental capability upon which a variety of services can be based will best serve the long term outcomes sought by the program. In particular, high capacity and augmentable backhaul capability will be a major driver of future service capabilities.

This, along with an open access approach to supported infrastructure, will ensure that short term and long term service delivery will be optimised through competitive pressures.

Q2 What means can/should be used to encourage further capital investment in infrastructure that will support competitive networks and services under Broadband Connect and beyond?

UtiliTel: The disparity in broadband availability in rural and remote areas which Broadband Connect seeks to remedy clearly indicates that the commercial requirements to support risk based investment is absent. Past programs have gone some way towards addressing this.

Further capital investment will be attracted when the risk / reward mix is appropriate. If the program is to limit the reward provided by way of incentive (or alternative) payment, then means should be sought to contain the risk.

We believe that the overall program will benefit by an approach which limits the commercial risk to investors – particularly through the introduction of an approach which provides for up front payment against an agreed delivery undertaking.

Q3 How can Broadband Connect funding be structured to provide the best incentives for investment?

UtiliTel: A number of initiatives are suggested:

Scheduling payments:
As for Q2 – the introduction of an up front payment will add to the incentive for prospective investors.

Generating Scale:
Up front payments should be applied to schemes on a regional or multi-centre basis, to generate the scale needed for long term and sustainable infrastructure investment. Schemes with scale are more likely to attract investors of substance with the capability to support investments in the long term.

Synergy:
Additionally, providing parallel funding from the constituent programs of Connect Australia when benefits from a proposed investment can support desired outcomes will assist in providing the investment incentive when this may otherwise be difficult.

3.4 Evolutionary opportunities

Q4 Is terrestrial or satellite the most appropriate means of delivering broadband in regional, rural and remote areas?

UtiliTel: Technology choices should be appropriate to the specifics of location and service outcomes sought. It will be difficult and counterproductive to establish a preferred technology approach across the range of locations and services addressed by Connect Australia.

Some high level experiences can inform approaches. Satellite based services can provide advantages:

a) where distance from established transmission routes is a major issue for alternatives;
b) where high bandwidth broadcast services are intended (eg television delivery);
c) where rapid deployment is a major concern (eg in emergency situations)

Experience however indicates that there is a major disadvantage in satellite technology where there is a requirement for highly interactive or latency dependent applications.

Where they can be economically deployed it is likely that terrestrial services, particularly those based on optical fibre and BPL technologies, will offer better outcomes and a more solid foundation for future growth.

Q5 Can satellite be delivered as competitively as terrestrial services?

UtiliTel: There may be some situations where satellite based solutions will be more economical that terrestrial solutions.

These should be assessed on a case by case basis talking into account factors such as those noted against Q4 above.

Q6 Should participating providers be required to commit formally to service the areas they identify in registration applications?

UtiliTel: It is likely that to achieve optimal outcomes for Connect Australia proposals funded by the programs will need to be developed iteratively and in detail.

We believe that it would be inappropriate and counter productive to seek concrete commitments in advance of an agreement by Government to fund specific proposals. Commitments would be most appropriately covered in enforceable contracts where obligations fall on all parties to the agreement.

Q7 Should annual renewal of funding agreements specify timeframes for commencement of services in areas of greatest need?

UtiliTel: Specific provisions (including timing) for an overall implementation of proposals agreed for funding can be incorporated in agreements.

Given the likely range of proposals that can deliver the Broadband Connect (and related program) outcomes, a blanket provision would be inappropriate. Required commitments will more appropriately be determined on a case by case basis given the circumstances attaching to a particular case.

Q8 Should a system of prioritised funding for services connected in areas of greatest need (beyond what has been provided under the HiBIS two-tiered incentive structure) be introduced?

UtiliTel: Yes. A strategic approach to resolving deficiencies in particular areas should include definition of requirements and application of appropriate solutions (including prioritised funding) against which competitive proposals can be sought.

Q9 What can be done further to overcome barriers to capital investment in sustainable technologies in less commercially viable regional areas?

UtiliTel: As noted in Q 3 above, Payment Scheduling, Scale and Synergy will be important elements in the effective implementation of Connect Australia.

Additional incentive may be provided through commitments to services by Government or Government funded entities. Such future assured income streams can serve to support investment decisions.

Q10 How can the high cost of some technologies be reconciled with increasing customer expectations for higher speeds and usage allowances especially in more remote areas?

UtiliTel: End user requirements have risen consistently for many years, and are likely to continue to do so. This continuing increase in end user demand needs to be acknowledged and accommodated if Australia is to improve its ranking in OECD broadband penetration rates.

The options for Government committed to avoiding major disparities in rural and regional areas are to:

a) provide significant subsidies to enable a series of short term solutions, or

b) to foster an infrastructure environment where more highly specified service provision becomes less problematic.

In our view the promotion of competing transmission systems (for backhaul) and broadband access (for end user connectivity) based on effective and economical fibre and BPL deployment should be a key aim of Government in implementing the Connect Australia programs.

With these infrastructure fundamentals in place a range of effective technology solutions (including wireless, DSL or BPL) can be implemented through an open access regime, making use of deployed fibre for connectivity of access nodes to backhaul systems.

Q11 Should it be mandatory for program participants under Broadband Connect to provide additional information as listed below as a condition of registration?

- intended future service areas (with approximate dates of commencement of supply;

- the viable geographic reach of broadband services from central transmission points for service delivery;
- technical barriers limiting the application of providers' technology in regional communities;
- the capacity of providers' technology to support varying types of broadband traffic and use;
- the range of service speeds providers' technology would be able to support;
- the capacity of providers' technology to provide services now and to accommodate new developments such as increased speed , usage and applications in the future;
- the particular relevance of the technology to other communication services (for example, capacity to be used also for supporting mobile telephony services);
- a summary of the broad nature of technology they employ; and
- anticipated timing and target areas for their technology deployment in regional Australia.

UtiliTel: Yes, information should be provided to allow Government to assess the relevance of intending registrants.

We note however that the criteria listed should not be used as a checklist to assess if an intending registrant qualifies for specific funding, given the commitment to technology neutrality and the need to assess specific proposals and innovative solutions on their merits.

Q12 On what basis would you argue that certain specific technologies will have the most impact on the delivery of regional broadband services in the next three to five years?

UtiliTel: Technology solutions should be assessed on the basis of capacity to meet desired objectives.

There is a risk however that the objectives may be narrowly defined and fundamentally undermine the effectiveness of programs like Connect Australia. In particular, the application of the considerable funding made available by Government to the achievement of "broadband parity" measured in terms of speed and download (eg 256/64 kbps and 500MB) would in our view substantially undermine the program.

Services available now in metropolitan areas are very often specified at much higher speeds and far greater download and upload allowances. The ability to provide for this higher service level in the short term, or at least provide the basis for capability in the longer term, is a criterion that should rank alongside short term objectives.

Q13 How would you compare the effectiveness of these technologies to others in the market place?

UtiliTel: An answer to the question entails a number of assumptions on the relevance of criteria to be applied, the measures utilised and qualitative projections regarding future services.

It may be useful to assess the alternatives in the manner depicted in the table below, where the more stars (★) indicates a likely preference:

	DSL	*Wireless*	*BPL*	*FTTx (*)*	*Satellite*
Ease of Deployment	★★★ *Assumes ULL*	★★★★ *Topology Dependent*	★★★★ *Assumes power grid*	★★ *Assumes ROWs*	★★★★ *Assumes transponder*
Cost	★★★★	★★★	★★★★	★★★	★★
Application Support	★★★ *Distance?*	★★ *Protocols?*	★★★ *Bandwidth?*	★★★★	★★ *Latency*
Future Proof	★★★ *Distance?*	★★ *Bandwidth?*	★★★ *Distance?*	★★★★	★★ *Latency*

Note (*) Deep fibre networks may be deployed in support of wireless, BPL or DSL solutions

Q14 To what extent will broadband technologies be able to augment capacity to meet rapidly expanding consumer expectations for higher bandwidth and more advanced applications?

UtiliTel: As indicated in Q13 there is likely to be a difference in the capability of differing networks to support future services.

Recent experience has shown that a high degree of innovation (eg BPL) can deliver solutions to at least ameliorate major discrepancies in service equity in comparison with the best served metropolitan areas. However, as demands for increased functionality grow it is likely that some solutions like wireless or satellite will find it difficult to keep pace with demand at a reasonable price, for example where high upload capability is required.

We are of the view that future proofing is best served by a highly focussed effort to ensure fibre is deployed as deeply as possible in the access network, with provision made for fibre based backhaul systems to major centres.

Where any relative cost disadvantage is perceived for all full fibre solutions in the short and near term, innovative solutions to use fibre supported wireless, DSL or BPL access for customer connections are likely to eventuate. Such deployments will drive fibre further into the access network and contribute to future proofing rural and regional initiatives.

Q15 Can complementary technologies provide better solutions for delivery of services in regional Australia?

UtiliTel: The innovative use of fibre with a range of access technologies (like BPL) will support high performance networks for better overall solutions.

Q16 What innovative approaches should Broadband Connect adopt in its program design to utilise these technologies most efficiently and effectively?

UtiliTel: Efficiency and effectiveness will be enhanced through the adoption of the strategic approach canvassed earlier, with a focus on long term benefits available through appropriate choices in the short term.

Q17 What capacity do existing technologies have to accommodate the introduction of new developments, such as increased speeds, usage and other applications?

UtiliTel: The wide range of technologies currently available for service delivery, including DSL, Wireless, BPL and FTTx have each demonstrated increased functionality and declining cost in the past several years.

Some options, including BPL and FTTH (fibre to the home) are at a relatively early stage of the cycle of capacity increase and declining costs, while others (like WiMAX) are yet too be fully implemented.

Each technology can be expected to show further improvements, though most informed commentary will favour fibre based solutions as the most likely to support increased functionality with no practical limits. Further, as a terrestrial guided media technology, fibre is free from a range of limitations that must be accepted with other technologies (including latency, wireless propagation limitations, attenuation in metallic transmission media etc).

Q18 Should the current system of incentive payments to providers for the supply of broadband services be retained?

UtiliTel: We believe there is scope for alternative approaches based on more global criteria to be utilised, at least in part. For example, funding based on provision of infrastructure to towns or regions where this is deficient should be funded on a different approach.

Hence, if retained, the current scheme should not be the sole basis of funding.

Q19 Would an up front method of payment be more effective?

UtiliTel: Yes. It would be likely to generate more significant commitments form investors and generate deployments on a wider scale with the ability for Government to focus on strategic objectives.

Q20 How else could the method of payments to providers be adjusted to achieve more satisfactory outcomes for providers and people living in regional, rural and remote Australia?

UtiliTel: We favour a scheme which distinguishes between infrastructure provision for backhaul and enabling access technologies, and separately for retail services. While intending participants may wish to participate in both aspects of service delivery, a scheme which generates an open access backhaul infrastructure and enables a range of retail / access providers will generate most benefits.

Infrastructure provision may be funded in association with parallel requirements for Clever Networks and Mobile Connect services.

This approach would generate a broader range of infrastructure participants for the backhaul and open access component, and at the same time enable a competitive retail environment for the benefit of end users.

Q21 Should funding be provided:

- based on the number of customers connected?
- the number potential premises with potential access?
- a combination of both methods?

UtiliTel: We believe that each component can be incorporated – that is, a combination. UtiliTel's submission against the Metropolitan Broadband Connect RFI (cited earlier) outlined such an approach.

Q22 If funding was based on the number of premises with potential access should it then only be provided for infrastructure?

UtiliTel: Yes. Though we note that infrastructure provision will entail some assumptions regarding penetration levels (hence the number of end services to be supported). Infrastructure will often need to be augmented when penetration levels increase, thus indicating that funding should entail a services connected component.

Q23 How can methods of payment under Broadband Connect be better structured to ensure that providers are not overcompensated for the supply of broadband services?

UtiliTel: A competitive bidding process will provide the strongest guarantee that funds are being best directed.

Q24 Should the current HiBIS threshold model for speed and usage be maintained at existing levels under Broadband Connect?

UtiliTel: As noted earlier, HiBIS service levels are now well exceeded in most metropolitan markets and may be regarded as inappropriate over the lifetime of Broadband Connect.

Q25 Should the model be retained with increased minimum speed and/or usage requirements?

UtiliTel: The scheme should encourage enhancement in services provided, especially over the medium to long term. It may however need to accommodate certain areas where demographic and technology constraints make services specified to a higher level unattainable.

Q26 Should two separate minimum speeds with two subsidy levels be introduced?

UtiliTel: It may be counter productive to establish a two tier system given that higher infrastructure costs apply in areas where service to a lower specification is contemplated by all competing solutions.

Q27 Do threshold requirements need to be expanded to accommodate other issues such as latency?

UtiliTel: As the scheme aims to foster equity with metro grade services broader criteria may be appropriate. These will need to reflect changing applications and consumer practices.

Q28 Should the Broadband Connect Stage 1 price caps be retained under Stage 2?

Q29 Should a greater range of price caps be introduced than the two currently available?

UtiliTel: Given the rapid changes in the market and continuing growth in consumer demands it will be difficult for Government to establish relevant caps. Encouraging a broad competitive environment based on infrastructure alternatives will provide the most effective commercial discipline and best value for end consumers.

Q30 Should the current funding cap level of 60 per cent continue under Broadband Connect?

UtiliTel: In our view it is important to retain the funding cap. The ultimate aims of Connect Australia will be best met through a strong competitive presence in rural and regional areas. This will be fostered by ensuring major funding schemes such as Connect Australia and the future Rural Fund are broadly applied and foster infrastructure competition.

Furthermore any funding beyond 25% to single party should have a clear and rigorous open access test applied both at the time of funding and for several years after. In our view a major deficiency of past funding arrangements has been the absence of true competitive retail services on the funded infrastructure.

4.4 Issues discussion

What form of broker network will provide the best outcome?

Q1 Considering the current DAB program structure - involving State, community and sectoral brokers - is the current arrangement the best model for catalysing broadband developments in regional, rural and remote Australia or how should it evolve?

UtiliTel: A more broadly focussed role based on the past DAB activities is recommended. The additional effort should extend beyond government services.

Q2 What role can/should brokers play in promoting or facilitating the effective use of broadband applications in order to enable communities and businesses to capture the transformational benefits of broadband?

UtiliTel: There is likely to be significant "demand pull" for broadband services when these become available. However the lack of past service availability may have left some prospective beneficiaries of effective service provision at a comparative disadvantage in terms of knowledge of potential broadband services.

An educational and promotional role for DABs would be advantageous, and could be mobilised in association with sectoral industry bodies (for example, those in the agricultural sector).

Q3 What other resources or programs should the brokers be aware of in this role?

UtiliTel: As for Q2, activities by sectoral industry bodies with a need and ability to deliver services in rural and remote areas will be valuable.

Q4 Should the broker role include an increased focus on 'effective use' outcomes and, if so, how can this best be achieved?

UtiliTel: Yes. Establishing strong associations with bodies delivering services over broadband is an obvious and effective means of promotion.

Q5 Should uptake and effective use of broadband by specific groups be targeted and, if so, which ones?

Q6 How might the brokers play a role in facilitating/supporting community-wide connectivity and community-wide (cross-sectoral) networks?

UtiliTel: Promotion and broad marketing activity which makes use of rural based media and events (such as field days) may prove effective.

Q7 Should future demand aggregation activities be focussed in areas that have yet to receive terrestrial broadband services under HiBIS to support the delivery of the new Broadband Connect program?

UtiliTel: This would be a valuable approach, particularly under the funding regime proposed in this paper. We support a strategic and focussed approach which sees funding for underlying infrastructure capability in designated regional area. In association with this demand aggregation activities (including education, promotion and marketing) can be coordinated and similarly focussed.

Targeted services for Clever Networks initiatives

Q8 Are health, education, emergency services and local government the appropriate services for Clever Networks to target?

UtiliTel: The listed services are appropriate to target, but not exhaustive of the opportunities or needs in rural and regional areas.

In our view Clever Networks will deliver better outcomes when funding is coordinated with that for Broadband Connect (and possibly Mobile Connect) to target areas which are recognised as deficient in broadband and related services.

As a result the target end user market should be more broadly defined.

Q9 Should there be priorities within this group?

UtiliTel: The opportunity in our view is to broaden the target rather than narrow it through prioritisation.

Q10 What other sectors, if any, should also be considered?

UtiliTel: As noted above, rural industry sectors and potentially tourism will benefit from a broader approach.

Q11 Should there be a focus on particular applications/sectors which will require and drive network or industry capabilities?

UtiliTel: The emphasis in our view should be on delivering metropolitan equivalent broadband service capability, with the expectation that applications will flow from equivalents in well served areas – that is, a significant demand has been shown to exist.

Q12 What strategies could be incorporated into the program design to ensure that investment under Clever Networks provides the greatest holistic community benefit?

UtiliTel: We have argued above that close coordination with other components of Connect Australia is likely to deliver the greatest benefit.

Infrastructure and application-focussed investment issues

Q13 Is there an ideal balance between infrastructure and applications streams and, if so, how can it be identified?

UtiliTel: The key deficiency in our view relates to infrastructure and this should be addressed as the priority.

We suggest that applications specific to the relatively small population base are unlikely to be viable. Rather, the greatest benefit will be derived through enabling applications which are current supported by broadband networks elsewhere to be feasible in rural and remote Australia.

Applications specific activities should in our view be of a promotional and educational nature.

Q14 What is the best balance between competitively determined and strategic investment funding?

UtiliTel: A strategic approach is necessary, given that Connect Australia and future Rural Fund direct significant sums at rural and regional areas where competition has failed to deliver equity of service.

We support an approach in which Government identifies regional areas where needs have yet to be met and seeks bids from qualified parties to create the infrastructure capability upon which future competitive services can be based.

Hence, a strategic approach to underlying infrastructure funding can run in parallel with competitive services to end customers.

Q15 Would potential proposals be improved if the guidelines permit proposals which encompass both infrastructure and applications aspects?

UtiliTel: We recommend separate processes for infrastructure and applications.

Q16 What key strategic investments in broadband infrastructure have the potential to provide the best outcomes?

UtiliTel: We have argued above that the significant deficiency evident in rural and regional Australia has flowed from the lack of effective infrastructure competition. We believe this is evident both in long haul transmission and in local access technologies.

Strategic investments supported through Connect Australia programs would have most effect if they:

1. *establish competitive backhaul connectivity for rural and regional locations that now have limited or no choice. In particular, securing access to independent fibre or microwave routes already in place (for example with utilities or other infrastructure investors) will prove most cost effective.*

2. *create the framework for competing local access systems. This will most effectively be developed through the fostering of effective connectivity in towns and regions through schemes which deploy fibre and BPL resources and establish an "open access" regime.*

Funding for Clever Networks initiatives

Q17 Are there complementary sources of funding/contributions which should be considered in developing the guidelines for the Clever Networks program?

UtiliTel: Yes. The associated programs in Connect Australia should be considered in parallel with Clever Network initiatives. Additionally, any State Government initiatives which support development will serve similar ends.

Utilising new and emerging technologies

Q18 Should there be specified minimum broadband specifications (eg. bandwidth, latency etc) for Clever Networks and, if so, what should they be and how should they be determined?

> *UtiliTel: Specification for services will need to address end user requirements, which can be expected to vary from case to case and over time. We recommend that the approach adopted ensure that immediate defined end user needs be met, and an enhancement path demonstrated for future growth.*

Q19 What steps / mechanisms can or should be incorporated, if any, into Clever Networks to enable regional, rural and remote communities progressively to transition to high / higher bandwidth networks?

> *UtiliTel: Provision of a commercial incentive for an investor to augment facilities provided is likely to be the most effective means available to ensure infrastructure keeps pace with growing demand.*

Q20 New technologies are showing considerable promise in providing broadband access to users well outside the current DSL limitations. What strategies should be adopted to encourage and support deployment of these new technologies, and to ensure newly emerged technologies are not precluded during the lifecycle of the program?

> *UtiliTel: We have argued for a competitive environment in which multiple customer access initiatives and separate retail offerings can co-exist.*
>
> *The enablers of this environment are an independent, open access backhaul infrastructure (for access to major centres), and associated transmission links to allow access nodes to reach the backhaul system. In our view, long term outcomes will be enhanced when fibre is deployed for this purpose.*
>
> *In our view support for new access technologies such as BPL and FttH must be encouraged through the programs as these innovations are likely to deliver competing physical access and foster true retail competition and choice for customers in rural and regional Australia.*

Sustainability of Clever Networks initiatives

Q21 What supporting information should be required in Clever Networks proposals in order for their sustainability beyond the life of the program to be evaluated effectively, and what factors should be considered in determining sustainability?

UtiliTel: As in Q18, an upgrade path should be demonstrated by applicants for funding. Both technology and commercial aspects should be covered in support of the submissions sought.

New infrastructure access arrangements

Q22 For any new infrastructure created or made available, should there be specified minimum infrastructure access arrangements for parties other than infrastructure owners, such as a wholesale-rate for backhaul?

UtiliTel: Yes. We favour an open access system for funded infrastructure, and believe this is critical to the full achievement of benefits possible from the implementation of Connect Australia. .

Q23 How realistic is such a requirement, and how tangible are the likely benefits of the approach?

UtiliTel: We believe that an open access system is viable and will serve to enhance outcomes for Connect Australia by ensuring the commercial disciplines of competition apply.

Q24 How can an appropriate charging regime for such access be determined?

UtiliTel: A realistic charging regime will need to be established to create the commercial incentives for both backhaul and access operators.

In this respect we note that past schemes have not distinguished between localities in setting subsidy levels (ie, under HiBIS). In practice, some areas will be more economical to serve than others, generally due to distance from established transmission facilities. This difference needs to be taken into account.

Links to other initiatives

Q25 What other program activities should be taken into consideration in determining Clever Network program eligibility and entitlement?

UtiliTel: The associated programs in Connect Australia are likely to offer synergies when considered alongside Clever Networks initiatives.

Embedding and undertaking program evaluation

Q26 Having regard to the possible diversity of the activities under Clever Networks, what strategies can/should be considered?

UtiliTel: Evaluation can appropriately focus on:

1. *Specific outcomes targeted against the funded initiative*

2. *Scheme wide drivers in terms of equity of service levels compared to metropolitan Australia.*