



COMMONWEALTH OF AUSTRALIA

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SENATE

SELECT COMMITTEE ON THE NATIONAL BROADBAND
NETWORK

Reference: Implications of the proposed National Broadband Network

THURSDAY, 1 OCTOBER 2009

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**SENATE SELECT COMMITTEE ON
THE NATIONAL BROADBAND NETWORK**

Thursday, 1 October 2009

Members: Senator Fisher (*Chair*), Senator Nash (*Deputy Chair*), Senators Birmingham, Ludlam, Lundy, Ian Macdonald and Sterle

Senators in attendance: Senators Birmingham, Mark Bishop, Fisher, Ludlam, Lundy, Ian Macdonald and Nash

Participating members: Senators Abetz, Adams, Back, Barnett, Bilyk, Mark Bishop, Boswell, Boyce, Brandis, Carol Brown, Bushby, Cameron, Cash, Colbeck, Jacinta Collins, Coonan, Cormann, Crossin, Eggleston, Farrell, Feeney, Ferguson, Fielding, Fierravanti-Wells, Fifield, Forshaw, Furner, Heffernan, Humphries, Hurley, Hutchins, Johnston, Joyce, Kroger, McEwen, McGauran, McLucas, Marshall, Mason, Minchin, Moore, O'Brien, Parry, Payne, Polley, Pratt, Ronaldson, Ryan, Scullion, Stephens, Troeth, Trood, Williams, Wortley and Xenophon

Terms of reference for the inquiry:

1. To inquire into and report on:
 - a. the Government's decision to establish a company to build and operate a National Broadband Network (NBN) to:
 - i. connect 90 per cent of all Australian homes, schools and workplaces with optical fibre to the premise (FTTP) to enable broadband services with speeds of 100 megabits per second;
 - ii. connect all other premises in Australia with next generation wireless and satellite technologies to deliver broadband speeds of 12 megabits per second or more;
 - iii. directly support up to 25,000 local jobs every year, on average, over the eight year life of the project.
 - b. the implications of the NBN for consumers and taxpayers in terms of:
 - i. service availability, choice and costs,
 - ii. competition in telecommunications and broadband services, and
 - iii. likely consequences for national productivity, investment, economic growth, cost of living and social capital.
2. The committee's investigation should include, but not be limited to:
 - a. any economic and cost/benefit analysis underpinning the NBN;
 - b. the ownership, governance and operating arrangements of the NBN company and any NBN related entities;
 - c. any use of bonds to fund the NBN;
 - d. any regulations or legislation pertaining to the NBN;
 - e. the availability, price, level of innovation and service characteristics of broadband products presently available, the extent to which those services are delivered by established and emerging providers, and the prospects for future improvements in broadband infrastructure and services (including through private investment);
 - f. the effects of the NBN on the availability, price, choice, level of innovation and service characteristics of broadband products in metropolitan, outer-metropolitan, semi-rural and rural and regional areas and towns;
 - g. the extent of demand for currently available broadband services, the factors influencing consumer choice for broadband products and the effect on demand if the Government's FTTP proposal proceeds;
 - h. any technical, economic, commercial, regulatory, social or other barriers that may impede attaining the Government's stated goal for broadband availability and performance in the specified timeframe;
 - i. the appropriate public policy goals for communications in Australia and the nature of any necessary regulatory settings to continue to develop competitive market conditions, improved services, lower prices and innovation;
 - j. the role of government and its relationship with the private sector and existing private investment in the telecommunications sector;
 - k. the effect of the NBN on the delivery of Universal Service Obligations services;

- l. whether, and if so to what extent, the former Government's OPEL initiative would have assisted making higher speeds and more affordable broadband services available.
3. In carrying out this inquiry, the committee will:
 - a. expressly seek the input of the telecommunications industry, industry analysts, consumer advocates, broadband users and service providers;
 - b. request formal submissions that directly respond to the terms of reference from the Australian Competition and Consumer Commission, the Productivity Commission, Infrastructure Australia, the Department of the Treasury, the Department of Finance and Deregulation, and the Department of Infrastructure, Transport, Regional Development and Local Government;
 - c. invite contributions from organisations and individuals with expertise in:
 - i. public policy formulation and evaluation,
 - ii. technical considerations including network architecture, interconnection and emerging technology,
 - iii. regulatory framework, open access, competition and pricing practice,
 - iv. private sector telecommunications retail and wholesale business including business case analysis and price and demand sensitivities,
 - v. contemporary broadband investment, law and finance,
 - vi. network operation, technical options and functionality of the 'last mile' link to premises, and
 - vii. relevant and comparative international experiences and insights applicable to the Australian context;
 - d. advertise for submissions from members of the public and to the fullest extent possible, conduct hearings and receive evidence in a manner that is open and transparent to the public; and
 - e. recognise the Government's NBN proposal represents a significant public sector intervention into an increasingly important area of private sector activity and that the market is seeking openness, certainty and transparency in the public policy deliberations.

WITNESSES

ARCHER, Mr Brad, Manager, Competition and Consumer Policy Division, Department of the Treasury	1
BEAUCHAMP, Ms Glenys, Deputy Secretary, Governance, Department of the Prime Minister and Cabinet	98
CAINE, Mr Grant, Senior Director, Australian National Audit Office	102
CASS, Ms Barbara, Executive Director, Australian National Audit Office.....	102
DICKSON, Dr Rhondda, First Assistant Secretary, Industry, Infrastructure and Environment Division, Department of the Prime Minister and Cabinet	98
DOWNEY, Mr Peter, Chairman, Cables Downunder	29
ECKERMANN, Mr Christopher Robin, Private capacity	80
EDGE, Mr John, Division Manager, Government Business, Special Claims and Land Policy Division, Department of Finance and Deregulation	87
ERGAS, Mr Henry, Private capacity.....	39
FOSTER, Mrs Alana, Executive Director, Australian National Audit Office	102
GOONAN, Mr Anthony John, Chief Executive Officer, YLess4U Pty Ltd	48
HOFFMAN, Mr Martin, Executive Coordinator, Strategic Policy and Implementation, Department of the Prime Minister and Cabinet	98
LEWIS, Mr Simon, PSM, General Manager, Asset Management Group, Department of Finance and Deregulation.....	87
McDONALD, Mr Tony, General Manager, Macroeconomic Policy Division, Department of the Treasury	1
McPHEE, Mr Ian, Auditor-General, Australian National Audit Office	102
MURRAY, Mr Richard, Executive Director, Policy Coordination and Governance, Department of the Treasury	1
QUIGLEY, Mr Michael Patrick, Chairman and Chief Executive Officer, NBN Co. Ltd	58
SAUNDERS, Mr Peter, Division Manager, Budget Review Division, Department of Finance and Deregulation.....	87
WONDER, Mr Bernard, Head of Office, Productivity Commission	17

Committee met at 9.10 am

ARCHER, Mr Brad, Manager, Competition and Consumer Policy Division, Department of the Treasury

McDONALD, Mr Tony, General Manager, Macroeconomic Policy Division, Department of the Treasury

MURRAY, Mr Richard, Executive Director, Policy Coordination and Governance, Department of the Treasury

CHAIR (Senator Fisher)—Welcome. I declare open this public hearing of the Senate Select Committee on the National Broadband Network, this being the third since the government announced its policy during April. I thank officials of the Department of the Treasury for appearing before us this morning. You are more than aware that the proceedings of this committee are public. If at any stage you wish for evidence to be taken in camera, no doubt you will request so. It is an offence for anyone to attempt to interfere with evidence that would otherwise be given by a witness to one of these inquiries, and you are protected by parliamentary privilege. Do you have any comments to make on the capacity in which you appear?

Mr Murray—I have had the lead role in national broadband since about April, I think, this year. Some of the issues covered today will probably predate that and I will try my best to answer questions around that. My colleague Brad Archer is in charge of our infrastructure area and deals with a lot of the issues directly related to national broadband, particularly to competition policy aspects, which is one of our main considerations. On my left is Tony McDonald from the macro policy area. He is particularly involved in the economic effects on the national economy, so he can answer questions on that aspect. We did not want to make any opening statement. We know time is short for you, so we are fine to answer any questions that you would like to put to us.

CHAIR—Thank you very much. Could you advise the committee what the normal process would be that Treasury would follow when it is requested to brief the government about the development of a new policy or a project of national significance?

Mr Murray—It would depend on what sort of project it was and in what part of the economy it was. In many instances it would be a major policy proposal, and some of that may be under our direct line of responsibility. For instance, ABIP, which was also known colloquially as Ruddbank, was a direct responsibility for us, so in the early stages of that we put together a small team which, when it came to implementation, became a large team. It was a reasonably large team with the backup of financial advisers from the private sector, because it was our direct responsibility.

When it relates to an issue that is not our direct responsibility, we want to focus on the issues that are of our direct involvement. Getting to national broadband, our issues were very much focused on competition policy and having a well-functioning telecommunications market. It is probably no secret that for the last two decades we have been quite concerned about the overall competitive structure of the market. Secondly, we are focused on the budget aspects and how to finance a national broadband network, given that policy in this area is not new. It is policy for

both sides of politics, and so we have been looking at the budgetary and financial aspects of that for some time. Thirdly, we have been looking at the direct impacts on the economy, which of course is then of direct relevance to overall economic policy. To get down to what this means for national broadband, it means that it had relevance to at least three different areas of the Treasury. That is why I was involved in policy coordination—to try to bring an overall view of Treasury's responsibilities to the table.

CHAIR—I got four areas: competition policy, markets—I guess you put that into the same category as competition policy—

Mr Murray—Yes.

CHAIR—budget impact and impacts on employment. This predates your time in this role, Mr Murray, but are you able to document to the committee a chronology of the actions that Treasury has been requested to take since the government announced its NBN round 1 policy, soon after coming into government?

Mr Murray—I think I will pass that to Mr Archer, certainly on those early stages. I can give you an outline for the current NBN, but I will pass to him for the early stages, and we may have to take some of this on notice.

CHAIR—I expect you will.

Mr Archer—If you are after dates and that sort of detail, I think we would have to take that on notice.

CHAIR—Please.

Mr Archer—I can speak generally. Treasury has been involved on an ongoing basis with these issues since the change of government and as the government's policy has developed and unfolded. In our role as advisers to the Treasurer, in the first instance, we will have advised the Treasurer periodically on developments in this area. Through the Secretary to the Treasury, we participated on the panel of experts. I think Dr Henry was acting more in a personal role rather than necessarily representing Treasury, but Dr Henry was on the panel of experts which assessed the tenders that came in in response to that government process. When the government's policy direction changed in the wake of the outcome of that process, again Treasury participated in the development of the policy that underpinned the announcement on the National Broadband Network on 7 April. Again, that was on an ongoing basis.

CHAIR—Do any of you have anything further to add to that at this stage?

Mr Murray—No.

CHAIR—Then I would ask you to take on notice a supplement to that answer with dates and as much particularity as you feel you are able in respect of the actions that you took. This is my final question for now before I invite my colleagues to join the fray: is Treasury involved in advising the government or the lead consultant in respect of the implementation study?

Mr Murray—We are. If I could just background that by saying: are we significant experts on telecommunications? The answer is clearly no, but we do have certain expertise over those areas that I have talked about. I am the Treasury representative on the implementation study steering committee of officials, which meets regularly to be briefed by and to have a dialogue with the lead advisers.

CHAIR—Are you able to give any further detail around the extent of your involvement? You have outlined it in general.

Mr Murray—Not really, but I would just reiterate—and I have to be careful here in how much I say because of the commerciality of all of this—that there are unfolding issues around competition, because the backbone of this proposal is a wholesale only network, which is a significant development in terms of competition. But there are issues around that, and so we are being asked for our advice on that within the limits of our expertise and our knowledge of the market.

There are issues around the governance of NBN Co. as a government business enterprise. The Treasurer is not the joint shareholder in this with the minister for broadband; it is the finance minister. But there are issues around the budget treatment and the classification of all government business enterprises. Our main one at the moment is Australia Post, but that applies equally to the NBN Co., so we are being asked for our advice on that and we are giving our advice. They are probably the two critical areas at the moment where we have got an overarching policy input.

CHAIR—You say that you are being asked for your advice—by whom?

Mr Murray—By the implementation study steering committee, of which I am a member.

Senator NASH—How much is the network actually going to cost to build?

Mr Murray—I think that is an issue for the implementation study. As you probably know, the implementation study will be looking at all of the commercial and structural details of the network and of the company itself. So they are details that will need to be worked through between now and early next year.

Senator NASH—If we do not know how much it is going to cost to build, how did we arrive at the \$43 billion figure?

Mr Murray—That is not an area of our expertise.

Senator NASH—That is unusual, Mr Murray!

Mr Murray—There are limits, and at times significant limits, to Treasury knowledge. As I think we have outlined pretty carefully at previous Senate estimates committee meetings, the overall costings are issues for the department of broadband, as they should be. They are the ones with the technical expertise and the technical advisors in this area and they will, in consultation with the department of finance, look through the detail and verify those costings. While we have

an interest in this issue, we would not purport to say that we have the expertise to come up with the \$43 billion, or any range around that.

Senator NASH—So you have not had involvement in determining whether \$43 billion is an appropriate figure?

Mr Murray—We have certainly been advised of how those figures were arrived at, and of course if we had any huge problems with that—

Senator NASH—Did you just say that you have been advised on how those figures were arrived at?

Mr Murray—Yes.

Senator NASH—Who advised you of that?

Mr Murray—The shareholder departments have been in close contact with us over these costings and, if we had any major issues with that, we would have raised them, but we did not. We were happy for those two departments to run with that responsibility and we were comfortable with the figures they then came up with, given the information set that they had.

Senator NASH—Can you share with this committee the advice you have been given as to how those costings were arrived at?

Mr Murray—That is really an issue that you should take up directly with the department of finance and with the department of broadband.

Senator NASH—I am sure we will do that. But you said that Treasury is comfortable with the process that was used to determine the figure that was arrived at?

Mr Murray—Yes. This was a normal costing exercise and we were comfortable with the process that was followed.

Senator NASH—I do understand that you cannot share that advice with us. What would the process have been if Treasury had been concerned about the process for the costings and you did not think it was an appropriate figure?

Mr Murray—I think you are getting pretty hypothetical.

Senator NASH—Too hypothetical?

Mr Murray—Yes. Bear in mind that, even though we pull the budget together, the expenditure costings are the responsibility of the department of finance. So we would have to be in a position of having serious doubts about a particular costings proposal and I cannot remember when that has arisen in the past over a major proposal. We are talking about a pretty competent bureaucracy in the department of finance over costings arrangements.

Senator IAN MACDONALD—Treasury provides the money; is that correct?

Mr Murray—The taxpayer provides the money.

Senator IAN MACDONALD—A very good point, and don't we know it! But you manage it. Can you remind me of where the \$43 billion is coming from? That is your area, isn't it?

Mr Murray—Yes. As you probably recall, the Minister for Broadband, Communications and the Digital Economy has outlined that the centrist scenario would not be that the government would come up with the whole \$43 billion over the eight-year period; up to 49 per cent of that would come from the private sector—

Senator IAN MACDONALD—They hope.

Mr Murray—Even though the government is committed up to the whole \$43 billion, the proposal is that 49 per cent would come from the private sector over the eight-year period. The assumption has been made that the other 51 per cent would have around a 50-50 debt-equity ratio. When you look at major infrastructure projects both public and private, to look at that sort of debt-equity ratio looks pretty reasonable to us, so that appears to us to be a pretty robust assumption at this stage. That leaves you with an equity funding by the government of about \$11 billion. Not all of that is going to be spent over the forward estimates, but we have in the budget numbers enough to cover the government's equity investment over the next four years. A lot of that will not ramp up for a couple of years.

The first part of it that we have enunciated in the budget is the \$4.7 billion that the government had pledged in election commitments. I think it is \$2.4 billion that comes from the Building Australia Fund, and the other \$2.3 billion would come from government borrowing through the government's proposal to have Aussie infrastructure bonds. The rest of the amount that is in there to cover the government equity investment in this project over the forward estimates is in the contingency reserve. It is in the contingency reserve for two reasons. Firstly, we need to await the implementation study to get the exact profile that we are thinking about for the equity investment. Secondly, there are commercial-in-confidence issues around exactly how this is going to unfold as a project, around the involvement of the private sector and around the involvement of the Tasmanian part of this project. So it was quite clear that we needed to keep part of that in the contingency reserve, because it is a contingency and because of the commercial aspects around that.

Senator IAN MACDONALD—I do not want to impose unnecessarily on the department, but could you give us a note identifying where we would find all those figures in the budget?

Mr Murray—That would be fine.

Senator IAN MACDONALD—Finally, whilst we are on this point: you say that debt equity seems reasonable, but even back-of-the-envelope stuff shows that at \$43 billion the thing just will not work. It will not be a commercial operation. We will have to pay three, four or five times what we are currently paying to Telstra to join up. No Australian is going to do that, and you know that. How can you be reasonably satisfied that the debt equity is right and that private investment is going to come?

Mr Murray—You are saying that I know that. I do not know that.

Senator IAN MACDONALD—You do the figures. Divide \$43 billion by how many Australians are likely to use it over a period of time, allowing for all the contingencies and—

Mr Murray—All I can reasonably say on that is that a lot of these issues are the ones that are being looked at in the implementation study. What we saw was what we thought were reasonable estimates about the overall cost and—

Senator IAN MACDONALD—You are not serious.

Mr Murray—well, I am serious, I am sorry, Senator—and reasonable assumptions over the debt-equity ratio in this. We do recognise that in any major project—whether it be the North West Shelf or a major infrastructure project like this—that there will be a period in the rollout—so the rollout over the eight years—when the project will not be fully operational in terms of its revenue capacity and so built into the \$43 billion are obvious capital injections to carry the project through to its construction completion. That is normal, and we have been comfortable with that. Beyond that, we are waiting on the implementation study to give us more detailed breakdown of the role of the private sector and all of the commercial operations of the company.

Senator IAN MACDONALD—Mr Murray, OPEL were going to do it for about \$5 billion. Telstra, when this started going, were going to do it for \$15 billion. This lot is going to do it for \$43 billion. How can Treasury possibly be relaxed about the commercial realities and the debt-equity ratio, which apparently is your responsibility or your advice area, when anybody with a modicum of business sense would know it just will not work?

Mr Murray—In terms of the detail of this, you really should be asking the department of broadband.

Senator IAN MACDONALD—Yes, you are right.

Mr Murray—However, in terms of how this rolls out—and I have to be careful about what I say about advice we have given—I think what we have tried to concentrate on is that they are very robust processes around how this might unfold and in terms of the processes for commitment to the project. That is where we have looked at the risks of this project and tried to pitch our advice. I am not sure I can say much more than that in terms of the advice we have given.

Senator IAN MACDONALD—Do I read between the lines there and see that you are not all that certain that it is going to be \$43 billion at the end of the day?

Mr Murray—I do not think you can read anything between the lines at all, Senator.

Mr Archer—I would observe that the minister for broadband since the original announcement has at least on a couple of occasions stated that, based on advice he has received from people who would know something about the issue, the network could cost considerably less than \$43 billion to build. I do not know whether that is right or not, but that does seem to be some information that has been provided to the minister.

Also, comparing it with the earlier proposals from Telstra and OPEL is not really comparing apples with apples because they were a different kind of network. Those proposals were for a fibre-to-the-node network, which is really just getting fibre to the street corner and not all the way to the premises, whereas the National Broadband Network proposal that we are currently looking at is a fibre-to-the-premises or a fibre-to-the-home network.

Senator NASH—You mentioned earlier in some comments to the chair that Treasury had for some time been concerned about the competitive structure of the market. Can you explain to the committee what you meant by that?

Mr Murray—Yes, I think I can. As you know, this market first evolved back in the early 1990s. I do not think it is any secret that we were concerned then that this should be a fully competitive market. I do not think it is any secret that we were concerned then and we have remained concerned to this very day about the vertical integration within the market.

Senator NASH—So you think it should be structurally separated?

Mr Murray—There are ways and means of arriving at various outcomes and what we actually think on that gets to the heart of the advice that we have provided over the last couple of years to the Rudd government.

Senator NASH—Is that a yes or a no?

Mr Murray—If you can let me finish, I might get somewhere on this. We have tried to look at a national broadband package that would deliver the best product in the most competitive market circumstances that we thought were optimal. Obviously there are going to be some natural monopolies around any sort of network in such a large country with a low population and we wanted to get to a situation where we would be comfortable with the robustness and the efficiency of the regulation that would have to go around that network. That is how we have tried to look at this issue and that is how we have pitched our advice.

Senator NASH—And the answer is?

Mr Murray—I am not saying yes or no, but I am trying to tell you the sort of background to what we have been looking at.

Senator NASH—I will ask from the other perspective then. Has operational separation been working well enough in your view to arrive at the types of things you have just mentioned?

Mr Murray—I think that is probably an issue that you should put to the ACCC, but our concerns back in 1990 have not been alleviated to any great degree over this 19-year period. I think the facts speak for themselves.

Senator NASH—That is probably a no then. You mentioned that in moving to the NBN and the wholesale-only network, ‘there were issues around that’. What are those issues?

Mr Murray—Sorry, could you repeat that?

Senator NASH—You mentioned earlier to the chair that with moving to the NBN and it being a wholesale-only network ‘there were issues around that’. What are those issues?

Mr Murray—I think they get to the heart of the competition issues. I am not sure how much detail I can go into.

Senator NASH—So we are back to structural separation again?

Mr Murray—No, they are your words, Senator. I think the fact that we are now getting to a situation where we can have a wholesale-only network has been a significant breakthrough from our point of view.

Senator NASH—Finally on a slightly separate issue, from Treasury’s perspective in terms of the spend, would there be any issues at all with starting the spending in regional Australia?

Mr Murray—I am not quite sure I understand the question.

Senator NASH—There has been some discussion about when this build happens, if and when it does, whether it would start in metropolitan areas or in the regions. If the decision was taken that the rollout should start in the regions, would Treasury have any objection or is there any reason why Treasury would be concerned that the actual spend would start in the regions first?

Mr Murray—These are details that are probably somewhat out of our league; however, in typical fashion, we would have a view on that in terms of the efficiencies. I think it is highly likely that there will be a lot of spend early on out in the regions because the backhaul issues are quite clear and the bottleneck issues around that—

Senator NASH—Separate to the backhaul issues. I am talking about the overall network, not just the backhaul.

Mr Murray—We would want to look at the details of that. You might want to have activities in the regions and the cities at the same time. They are different circumstances. We are not experts. We would have to defer to the government’s advisers on this.

CHAIR—But you do advise on competition, on markets, on employment—

Mr Murray—Yes, and we would certainly look at all of that. We do not have a closed mind to that concept at all.

Senator NASH—To starting in the regions, great.

Mr Murray—It could be starting in the regions or it could be doing the regions and the cities at the same time. We would be quite happy to look at that.

Senator LUDLAM—Were you asked to provide advice on what proportion of spending on the NBN should be spent on the 10 per cent where fibre will not get to the home, proportionately to the 90 per cent where it will?

Mr Murray—That is a detail you would really have to take up with the department of broadband.

Senator LUDLAM—Is that because you were not asked to provide that level of advice?

Mr Murray—It is not within our competence to provide the level of advice.

Senator LUDLAM—If we can go back to one of the questions that I think Senator Macdonald asked before where you provided information on the range of estimates. You were asked about the \$43 billion, and you had a look at that. Also it has been proposed that in fact the spending might be quite a bit less. What is the lowest figure that you are aware of? Have you provided the government with analysis of the appropriateness of any lower figures than that maximum?

Mr Murray—I know the answer to that is I do not know what the lowest estimates are. I am not privy to that, and no we have not provided advice.

Senator LUDLAM—So in a way you were asked about the worst case scenario?

Mr Murray—We were certainly given a rundown on how the costings were arrived at between the \$38 billion to the \$43 billion estimates that then built into the budget, but this is not our responsibility.

Senator LUDLAM—It is not your responsibility to model what would happen if the government spending ended up being quite a bit less? I am just not clear of what your responsibility is. I am well aware, obviously, that it is not on the technical side.

Mr Murray—The responsibilities over expenditure lie with the line department and with the department of finance. We certainly are concerned about the risks to the budget on a whole series of issues—on every issue, if you like—so we do have a view and certainly we have taken into account for NBN the various risks and have given advice on that. What we have given I obviously cannot say.

Senator LUDLAM—That is all right. Just to make sure that we are clear, it is expected that slightly less than 50 per cent of the funding will come from the private sector and slightly more than 50 per cent will come from government, at a roughly 50-50 debt to equity ratio. I am just wondering whether you can tell us a little bit about the bond issue that is proposed, the Aussie infrastructure bonds.

Mr Murray—Yes, that is certainly our responsibility, or it is the responsibility of the Australian Office of Financial Management, which is a Treasury agency. There are various aspects to this. The Australian Office of Financial Management and the Treasury will be working with the implementation study lead advisers on this issue because this is a Treasury responsibility. However, the need for Aussie infrastructure bonds will be at least a couple of years out, so the exact detailed design on this will have to wait till closer to the time. But what are the possibilities? Certainly from the government's point of view there are likely to be options around a retail bond issue. We have to look carefully at this because this would be a new market and you would need to have a certain amount of liquidity in the market for that, you would need

to know how you would pitch that to the mum and dad investors, if you like, to make this an attractive proposition and you would want to look at how you would distribute that around the country. So there is that part of it.

There are also the normal wholesale bonds, and the Australian Office of Financial Management would be seeking to fit the Aussie infrastructure bonds in with their normal bond programs. I am not sure if you are aware that, for each bond line, for liquidity you need about five billion, so for a 2014 bond you need about five billion to have liquidity in the market. And you especially want to build liquidity on bonds that are two to three years from maturity and then out to 10 years, because it is the two- to three-year bonds and the 10-year bonds to maturity that underpin the bond futures market, which is quite important in most markets for determining the overall yield structure out to 10 to 15 years. So you would want to build the Aussie infrastructure bonds into that program.

All of this is really complex detail and it will need a lot of advice from the Australian Office of Financial Management's market advisers. It will need to be done, obviously, somewhat closer to the time than what we are at the moment. Those are the sorts of issues that we are trying to deal with over Aussie infrastructure bonds. I am sorry if that was a bit longwinded.

CHAIR—I have a question on this point. You indicated that the Office of Financial Management will be working with the implementation study. In July the CEO of the Office of Financial Management, Mr Hyden, reportedly told the press that he had heard nothing and, more particularly, had received no information on the structure and form of the bonds or the possible timing of their issuance. That was three months after the minister announced this was going to happen and two months after the budget papers. You say this is very complex and there will be more closer to the time. So, firstly, has the situation that Mr Hyden stated to the press in July changed? Secondly, what is the normal lead time for the involvement of the Office of Financial Management in a forecasting of debt raising, particularly one potentially as significant as this?

Mr Murray—This is a very fair question. I do not want to speak for Mr Hyden, but my understanding in conversations with him is that he was misquoted and taken out of context. You should not always believe what you read in the press!

CHAIR—That is why I asked you to reflect. Has he been contacted by those of implementation study yet?

Mr Murray—This is mainly a Treasury and Australian Office of Financial Management issue, and there was pretty strong dialogue way before the budget and way before finalisation of the NBN project. Between late January and the announcement of the project there were discussions between the Treasury and the Australian Office of Financial Management, and there have been discussions since. The contacts between us and the implementation study team will be to try and get a better handle on the exact profile of funding requirements, particularly going out across the forward estimate years. In the lead-up to each financial year there will be the start of detailed planning over this. But we have worked on the concepts around Aussie infrastructure bonds right from the beginning, and we will continue to work on them over the next couple of years as we lead up to the actual issuing of these bonds.

CHAIR—In terms of the normal lead time for the Office of Financial Management in forecasting debt raising, what is the normal time, has it already been breached in this case or is it still able to be observed and, if so, what is the plan?

Mr Murray—You would have to ask Neil Hyden for all those sorts of details, but here clearly it has not been breached. The funding requirements are not till at least 2010-11 or maybe 2011-12, but certainly we are some way away from the actual bond issuance. In no way has any of the planning being compromised—far from it. An important decision in the whole forward planning of a bond program is the actual budget, like the budget bottom line, and of course you do not do that till May, literally a month and a half before the start of the next financial year. If you go back, maybe there is planning back in April, so April before the next financial year is when you are really getting into the strong detail about what the bond program is going to look like.

CHAIR—You said earlier that those are questions that should be asked of Mr Hyden. He ain't here and his agency is in your portfolio, so can you, as Treasury, please take those questions on notice.

Mr Murray—I am not trying to avoid your questions and I think I have given you a reasonable amount of detail on what the process might look like.

Senator LUDLAM—You said the first issue would be a couple of years away, but can you be a little more specific? If the project rolls out as anticipated, what would you expect would be a reasonable date for the first issue?

Mr Archer—We might need to take that on notice. Initially there is \$2.4 billion coming from the Building Australia Fund. As that is expended over time obviously the time will approach that the bond issuance will have to take place. But I do not have that information.

Mr Murray—From recollection, it will be sometime during 2010-11 but, as Mr Archer says, we will take that on notice and come back to you on that. The real detail on this will not be available until we get the implementation study, but we can give you some indications out of the current budget.

Senator LUDLAM—Is it anticipated that the 50 per cent debt component of the Commonwealth investment would be raised through these bonds entirely?

Mr Murray—I am not quite sure I understand the question.

Senator LUDLAM—When we get around to it, is the bond issue going to fund the entire Commonwealth contribution, apart from the \$4.3 billion that is already in the bank?

Mr Murray—Apart from the \$2.4 billion that is in the Building Australia Fund, the rest of the Commonwealth equity—not the debt component but the equity component—will come from Aussie infrastructure bonds. That is up to around \$11 billion. It is most likely that the other \$11 billion that would be the debt part of this would be raised by NBN Co. itself on the market. This is a normal operation of a government business enterprise. I indicated before at Senate estimates that that portion would be like a raising by Australia Post, for instance. That would be at a premium above the Commonwealth bond rate, which is normal in the market because, even

though there is at least an implied guarantee over government business enterprises, it is only implied and the market does set a premium above that for the risks around that particular business, as is appropriate.

Senator LUDLAM—Would Treasury normally be asked to advise on that component, the debt raising, or would that be entirely up to NBN Co. to organise itself?

Mr Murray—That would be a matter for the board of NBN Co.

Senator LUDLAM—Okay. With Commonwealth infrastructure projects of this scale, would you normally be asked to provide a cost-benefit analysis of the project?

Mr Murray—We would not. How should I answer this? If you look at most projects, there is at least a reasonable analysis done of likely benefits and impending costs. Certainly in a best world you would want to see some studies around benefits and costs. If your question is ‘Has that been done in this case?’ a formal cost-benefit analysis has not been undertaken. However, as the Treasury—if I can at least say this on this point, because I think there has been a lot of misinformation about the cost-benefit issues—we have thought for some time, given the competitive structure within the market, that Australia has been lagging somewhat behind in the overall rollout of a national broadband network. On some of the benchmark indicators on the level of service, whether it is the amount of broadband bandwidth or the actual download speeds, we have been performing particularly poorly.

We have been very comfortable with the overall policy objectives from both sides of Australian politics to in some way roll out a national broadband network. There are significant benefits. They are difficult to quantify. This would be a major issue for any cost-benefit analysis. There are obviously direct benefits. There are benefits of increased capital stock, that would roll through into potential growth, and increased productivity—multifactor productivity, as it is called—which would come from the new technology being rolled out across the economy. They are clear, direct economic benefits. However, there are also significant likely benefits from the fact that we would move to a new competitive environment and we would have, through the retailers, significant innovation and dynamics in the market that we do not have now. Combining that with the network coverage and the network productivity, there are likely to be significant spin-off benefits of this. A lot of that is difficult. Those spin-off benefits are very difficult to quantify. We consider that they are significant, and we have always considered those to be significant.

Senator LUDLAM—I realise that a lot of the benefits, particularly long term, are very intangible and difficult to model, but surely you would have been asked to provide some rough numbers, otherwise how do we know, for example, that the government shouldn’t be spending \$100 billion or \$200 billion or \$10 billion? There must be some at least back-of-the-envelope calculations out there as to what the network operators are going to be able to charge for wholesale access, for example.

Mr Murray—There are various studies. We have not done the studies ourselves. I have made that quite clear on previous occasions. We do not have the wherewithal to be able to do that. To do this would be a major modelling task and it would have significant uncertainties. What we have been clear about is that we think there are significant benefits—some of them short term

that would be immediately evident and some of them into the long term. There would be significant economic and social benefits that would probably require you to have a serious look at the discount rates that you would want to apply to any analysis on this.

Senator LUDLAM—Are we not flying blind in the short term if there has not even been an attempt made to quantify the short term—recognising that in the long term it is probably impossible to do?

Mr Murray—Yes.

CHAIR—You have spoken a lot about the spin-offs, but you have been splendidly silent on the risks, and there are many clear ones and also potential ones. Essentially, Mr Murray, you are saying, if I hear you correctly, that Treasury would not normally do a cost benefit analysis, because normally someone else would do one. At the same time, the Secretary of Treasury has said, ‘Well, if there is not an appropriately done cost benefit analysis of these sorts of projects, then it necessarily detracts from Australia’s well-being.’ How does all that hang together?

Mr Murray—We are not about to walk away from our secretary’s comments on this. I am not sure that you have quoted him correctly.

CHAIR—No—that was my version thereof. The key words are there.

Mr Murray—Yes. And we are certainly not about to walk away from that. We have been comfortable that there are significant benefits. We obviously have our advice—and I have said this before today—around the risks of delivering that. We think there are significant direct benefits and significant benefits to be delivered particularly through a significantly changed competitive environment, but we were well aware of the risks involved. Perhaps I could at least say this, because a lot of this is about advice we have given to cabinet: we have given advice on how to mitigate those risks and deliver the National Broadband Network in a cost-effective way. Some of that is around process and some is around the actual parameters to go into this. I cannot say any more than that, but I am trying to be helpful. We have certainly sought to address the risks and that has been the basis of our advice.

Senator BIRMINGHAM—I just want to quickly revisit the issues around Mr Hyden and the comments you made in response to Senator Fisher’s question that he had been misquoted in some way. My understanding is that the issue Senator Fisher was raising was in fact correspondence from Mr Hyden to the very good secretary of this inquiry, Ms Kelly. That letter says:

The AOFM has had no contact so far with the implementation study and has received no information on the likely structure and form of AIBs or on the possible of their issuance. No provision has been made at this stage for the inclusion of AIBs in the AOFM’s issuance plans.

That is a direct quote from a letter on AOFM letterhead and signed by Mr Hyden.

Mr Murray—I can say several things. Firstly, you should ask Neil Hyden exactly what he meant by those words. Secondly, what was the date of the letter?

Senator BIRMINGHAM—The letter was dated 6 July. I think Senator Fisher's question was: has there been contact since then?

CHAIR—Exactly. Has the situation changed?

Mr Murray—The situation has changed in so far as there has been progress with the implementation study. Perhaps I could put it this way, because there is a lot of commerciality in all of this: we will be the catalyst, if you like, and the conduit between the AOFM and the details that they need and the details that will obviously be coming out of the implementation study. Are we to that situation yet? No. I cannot say anymore than that. Have we got to the stage with the implementation study where we have firm details on what the AOFM needs? No.

The third point is: have there been significant discussions between the Treasury and the AOFM about the whole concept of Aussie bonds? There certainly have, and they predate the budget in May and predate the announcement in April of this project. That might put Neil's comments into a bit of context.

Senator BIRMINGHAM—It certainly provides, at least, some comfort that there have been some discussions in the past on this issue and on the role of Aussie infrastructure bonds in the overall NBN mark 2 project. As the catalyst—I think that was your word, Mr Murray—or the meat in the sandwich, or however we look at it—

Mr Murray—I should rephrase that. We are not normally the meat in anybody's sandwich. We will have a very strong role in this. I can assure you that the whole concept of Aussie infrastructure bonds is a high priority for the government; therefore, it is a high priority for us in getting these infrastructure bonds off the ground, both retail and wholesale, and doing it in a very cost-effective way. We have had discussions with the AOFM about that. Many of the issues around the policy on that are, first of all, the responsibility of Treasury but in consultation with the AOFM. So you can be assured that this is a top priority for us.

Senator BIRMINGHAM—Have there been further discussions since 6 July between Treasury, acting as the catalyst, and the AOFM about the implementation study and the process of Aussie infrastructure bonds?

Mr Murray—What I have been trying to tell you is that there has not been a lot of discussion. Has the situation changed? Yes, it has. We have an implementation study that is now clearly up and running. But are we at the stage where we have some hard numbers that we can work with? No. I am not sure I can say anymore than that because I would just be giving away confidences of the study itself.

CHAIR—There is one further question that you might take on notice, given that Mr Hyden goes on in the same letter, in July, to the secretariat of the committee to say, 'No provision has been made at that stage for the inclusion of infrastructure bonds in the AOFM's issuance plans.' Can you please inform the committee as to whether that position has changed since July?

Mr Murray—I will take that on notice. His words do not surprise me at all. Because all of these numbers are in the budget, the AOFM obviously have a profile of what the funding looks

like, at least with the current budget numbers out for the four years. However, detailed planning, as I have explained, really awaits what the budget will look like for the coming year.

Senator BIRMINGHAM—Mr Murray, obviously the implementation study is looking at the build of the network and, from that, what the cost to build the network will be and therefore what the injection of funds will be. Does the implementation study also have a remit to look at the timing and manner in which those funds are raised or will that purely be a matter for Treasury and the AOFM and other relevant agencies?

Mr Murray—If I can put it this way to make it quite clear: the implementation study, as you rightly say, will be looking at the costs and therefore the likely profile as this network build rolls out. The actual mechanisms for raising the debt and equity will, first of all, involve negotiations with stakeholders who may want to vend in assets and, presumably, the NBN Co. itself will have a very big part to play in that. The raising of necessary debt by the NBN Co. itself, as this project rolls out, will be a matter for the NBN Co. board and the raising of funds to back the government's equity position will be a matter for the Treasury and the AOFM.

Senator BIRMINGHAM—Thank you; that makes it clear. In terms of the funding that has been allocated to date, how much has been injected into the NBN Co?

Mr Archer—Again, we do not have that information with us. The department of finance would probably be able to provide an answer to that question.

Senator BIRMINGHAM—Of the \$4.7 billion that is known in public versus what is in the contingency for the forward estimates, how much is allocated for the current financial year or are you not able to reveal that?

Mr Murray—We do have numbers on that. We can take that on notice. I think it is around \$800 million, but we would have to get back to you on that.

Senator BIRMINGHAM—If you pick it up while you are at the table, you can let us know.

Senator LUNDY—I have a quick question and you may wish to take it on notice. I am interested in hearing a summary view of Treasury's concerns about the effects of long-term vertical integration and, indeed, horizontal integration in the telecommunications sector and the impact that has on the market.

Mr Murray—We will take that on notice. Obviously, the ACCC, being an independent regulatory agency, has quite strong views on this and can make them public. We are a policy-advising agency, advising direct to the Treasury and to the government, so we need to be a bit circumspect in what we say.

Senator LUNDY—I am happy for you to take that on notice.

Mr Murray—We will take that on notice.

Senator NASH—There are obviously a couple of ways forward for the NBN. One is the structural separation and Telstra vending in the assets and having a single wholesale network.

The other one is the option of the government having to overbuild. What is Treasury's view of the impact if the government has to undertake that option?

Mr Murray—If I can put it this way: in looking at the risks around this project—and I want to be careful here not to betray cabinet confidences—what we have based our advice on is that there is a spectrum of scenarios. Some of them are risky and some of them are far less risky. We have looked at that spectrum and we have tried to give our advice across that spectrum from a situation of competition between various networks to a situation of a more vend-in model. I am not sure I can go beyond that, but I can assure you that we have looked across that spectrum of scenarios.

Senator NASH—My understanding is that about 60 per cent of the client base will be needed to make any of them viable. So if you have two, surely it becomes unviable to adopt the overbuild option?

Mr Murray—I am not expert in this—

Senator NASH—I am just asking. You are Treasury and you know the numbers of this. I am the layperson here. I am just trying to get a bit of an understanding.

Mr Murray—I am not sure there is much I can add on that. I think I have already indicated that this is a large continent with very low population. The United States is not much bigger in area than Australia and it has 300 million people. Geographically, it is fairly reasonably situated across the whole continent. We do not have that. Obviously, there will be parts of this network where you would not want to overbuild and, probably, you would not overbuild. There are other parts where probably there is competition already and competition will presumably continue. Apart from that, I am not sure that I have the expertise to add much to that.

CHAIR—Thank you, gentlemen, for your time today and in the future.

Mr Murray—It is our pleasure.

[9.43 am]

WONDER, Mr Bernard, Head of Office, Productivity Commission

CHAIR—Welcome. You are more than aware that the proceedings of this committee are public and that you are protected in giving evidence by parliamentary privilege, that it is an offence for anyone to attempt to interfere with evidence that would otherwise be given by a witness of this committee and that if at any stage you consider it appropriate to request providing your evidence in camera then you may make that request. You have made a very comprehensive submission. Are there any amendments you wish to make to it?

Mr Wonder—I have no amendments.

CHAIR—Do you wish to make a brief opening statement?

Mr Wonder—Let me start off by saying that I was planning to be here with a colleague of mine who is on your witness list, Ian Gibbs, but, unfortunately, for medical reasons he could not be here this morning.

CHAIR—We wish him well.

Mr Wonder—That is how it is, and I will soldier on. I expect you are quite familiar with the commission's role and responsibilities, so I do not plan to take up your scarce time on that. But I am happy to answer any questions you might have in this regard.

Notwithstanding your compliment about the comprehensiveness of our submission, I should say that when we were invited to make a submission, we initially thought we would not make one because we had not done any recent work in the broadband area. We reflected on that—and indeed your secretariat encouraged us to reflect on it—and we decided to focus on the work that we had done in related and relevant areas in the past and thought that we might be able to focus on some best practice policy and regulatory principles that we could distil from that experience. That is the background to our submission, but I do emphasise we have not done any recent work in the broadband area.

CHAIR—The committee accepts that distinction and looks forward to the parallels and lessons you will be able to extend.

Mr Wonder—Indeed, much of the material that is in our submission we did in fact make available to the committee in September 2008 in a letter from my chairman in response to your request for submissions under the committee's original terms of reference. So I have drawn quite widely on that. To move on, the starting point for our submission is the government's decision to proceed with the rollout of fibre to the premises. I will not go through the detail of our submission but, perhaps, I could make a few points, as you suggest.

The first point I would make is on the potential benefits from fast broadband, and I listened to the discussion with the previous witness. Broadband is what we would call an enabling ICT—

information and communications technology. It facilitates innovation and in doing so can deliver quite pervasive economic and social benefits. Previous commission work in this area on the link between ICT investment—ICT investment in general rather than broadband in particular but, I think, nevertheless the comments are relevant—and productivity found that an important contributor to Australia's improved productivity in the 1990s was a competitively driven acceleration in ICT use in many industries. That work is probably quite useful to you.

An equally important message that has emerged from a variety of commission projects is that the scope for Australia to potentially reap the benefits on offer from NBN and other ICT innovations, such as higher capacity wireless connectivity, will depend critically on strong competition among users to drive the search for profitable applications and also on a supportive, flexible and responsive policy and regulatory environment.

So at present we have four methods for delivering broadband internet: copper telephone lines, such as ADSL2; wireless systems, including mobile and satellite; coaxial; and fibre optic. Our policy environment should retain the maximum scope for competition among these technologies—and any others, I might add, that might emerge in the future, because this is a fast-moving area. We see that as likely to best serve the interests of consumers and Australians more generally.

The second area I wanted to make some brief comments on—and this is again in the area of the discussion you just had with Treasury—is cost-benefit analysis. We make some comments on cost-benefit analysis in the submission. I am aware of, and I heard earlier, the discussion about the government's implementation study and indeed the possibility of regional locations being the initial focus of the rollout. In addition to that, of course, I understand the government has also designated some regional backbone black spots for priority construction of backbone transmission links. In relation to cost-benefit analysis, I would say that if this is how the rollout is to proceed then these initial experiences may well provide some very useful opportunities for cost-benefit assessment. In other words, we are apparently going to see some pilots roll out, and those pilots are going to produce information, and that information can be assessed. My comment is that they will provide some highly useful data for assessments undertaken, possibly in conjunction with the implementation study. As further information becomes available then that information, too, could be included in assessments with a view to improving estimates over time.

CHAIR—Mr Wonder, if I may, do you have much more by way of opening statement?

Mr Wonder—Just a few comments. Indeed, this approach could overcome some of the uncertainty you have been speaking about in respect of the benefits and costs of the project. It might sound a warning bell, as well, in respect of potential overengineering of the project.

I have just a couple more comments. One is in the area of financing of infrastructure. I am aware that you had some discussion of that earlier. The key points I would make there are, first, the significance of separating the investment decision and the financing decision. Second, the right choice of financing vehicle can produce material savings by better aligning incentives and imposing useful disciplines. Third, you talked a fair bit earlier about Aussie bonds, but another vehicle that may be considered is public-private partnerships. These have the potential to reduce total project costs by aligning the incentives to manage project risks.

The last comment I would make is in respect of competitive neutrality. This policy seeks to ensure that government businesses do not enjoy any net competitive advantage over private competitors just because they are publicly owned. That is, these wholly or partly owned government businesses should face the same incentives, including earning a commercial rate of return, taxes and regulations that private operators face. I will leave my comments there. I have not touched on some of the issues in our submission. I am happy to address any questions you have.

CHAIR—Thanks, Mr Wonder.

Senator LUDLAM—Thanks very much for your opening comments and your submission. You have led off with a caveat that you have not done detailed work in ICT in a little while. Have you been asked by the government to play a role in the forthcoming rollout?

Mr Wonder—No.

Senator LUDLAM—Let us pick up where you left off, which was around the question of eventual public or private ownership of NBN Co. Do you have a strong view either way as to whether or not monopoly infrastructure of this kind should stay in public hands? The government has signalled an intention to sell down the Commonwealth stake a couple of years down the track.

Mr Wonder—We have not looked at that question in this context.

Senator LUDLAM—To make the question a bit more specific: you do not have a strong view either way as to the benefits of public or private ownership of infrastructure of this kind?

Mr Wonder—No. We have not come at this from an ownership point of view. We have come at it from a competition point of view, as evidenced in our submission. Our argument is that it is the maximum scope for competition that will likely best serve the interests of consumers in Australia.

Senator LUDLAM—But, with wholesale infrastructure of this kind, presumably you are not suggesting that NBN Co. should stay in competition with Telstra Wholesale or anything of that sort. Do you agree that this is essentially a piece of monopoly infrastructure, that at the wholesale level there will not be competition?

Mr Wonder—We have not looked at that. We have not done any work, as I outlined earlier, on broadband in recent times. We have not done any work in respect of NBN. We have not looked at competition between NBN and alternative forms of providing services, so I cannot comment on that.

Senator LUDLAM—You have got some quite sharply worded cautionary comments about public-private partnerships. Can you outline for us, maybe with some case studies outside this sector, the key areas where these things can go wrong?

Mr Wonder—Yes, thanks for that. I made those comments in respect of infrastructure partly on the basis of some work—albeit not directly focused on the NBN—that we had done on the

financing of infrastructure in recent times. I guess the key points are about minimising the risk for the overall project. When you look at the various vehicles that can be brought to bear on financing this project, obviously an objective is to minimise the cost of finance. That also is associated with dealing with the financial risks. Different vehicles will have a different effect in respect of their capacity to address those risks. The point, really, was about aligning the incentives of the financing vehicle appropriately with the risks for the project. If they are misaligned then you can get some difficult outcomes. Again, I am not talking about this particular project, but the point will suffice and it is a point that we made in the project that I referred to earlier. If, for example, the terms of a public-private partnership are not well bedded down with regard to the way some of the risks are going to be handled, then the contingent liability situation, potentially, is that the government ends up bearing those risks. So there is a bit of a moral hazard. If you do not get the public-private partnership right then you worry about where those risks are ultimately going to be borne.

Senator LUDLAM—There have certainly been some spectacular examples recently in transport infrastructure. Is there any such thing as a best practice guide or a set of guidelines for minimising risk to the public when engaging in PPPs? Has the Productivity Commission undertaken any of that kind of work, or do you know anyone who has?

Mr Wonder—The publication that I have referred to on financing infrastructure addresses some of those issues. It is on our website. I would recommend that to you.

Senator LUDLAM—All right. I might come back later if there is time, Chair. Thanks.

Senator NASH—Mr Wonder, if the NBN does not go ahead, what is your view of what the impact will be?

Mr Wonder—I do not have a view because we have not looked at the implications of the NBN. If we have not looked at the implications of the NBN I cannot really know what the absence of an NBN would mean.

CHAIR—You have said that again and again, and we do appreciate it. But is there merit in the Productivity Commission examining the broadband market to determine where market failures are and are likely to be so that you can suggest some remedies or, even better, some steps to prevent those failures occurring in the first place or, at the very least, to reduce them?

Mr Wonder—The merit question is really a question that needs to be asked of the government. The government is the body responsible for sending the Productivity Commission references, and we respond by completing those references as directed.

CHAIR—And you are expert in that field, so would you not think it would be helpful if the Productivity Commission were to be asked to do that work?

Mr Wonder—The Productivity Commission is expert in many fields and the government makes judgment about where our interests and efforts can best be focused.

CHAIR—I presume if asked you would deliver yesterday!

Mr Wonder—I do not know about ‘yesterday’. We would certainly deliver.

Senator BIRMINGHAM—Your submission highlights the work of a recent staff working paper relating to efficient financing of public infrastructure and it makes the point that it is important to keep the investment and financing decisions separate. In this regard, the government announced a policy objective, being the new \$43 billion fibre-to-the-home NBN, and financing decisions simultaneously. What do you see as the risks in not keeping those decisions separate and what are the advantages of keeping them separate?

Mr Wonder—The point I made that you refer to is a general point not made in the context of the NBN. The staff working paper that you have referred to is the same staff working paper that I was referring to in respect of Senator Ludlam’s questions earlier. The point of principle is not to confuse the two lots of judgments that need to be made in respect of financing in the overall investment decision. We are making the very simple point that, in making judgments about the likely pluses and minuses of a project proceeding, it should be looked at overall in the first instance to make a sensible investment decision. The question of the appropriate financing vehicle needs to be looked at on its own terms with all the respective benefits and costs, as I outlined earlier in respect of aligning risks and incentives of the various vehicles.

Senator BIRMINGHAM—So you would say it is a best practice approach to look at whether a project is necessary and provides the net benefits to justify it in the first instance and then to undertake the requisite study required to see how you might implement that policy.

Mr Wonder—Yes, separating those decisions. I indicated in the opening remarks that I was trying to bring to the committee some best practice principles that might be useful for your work, and that is one of them.

Senator BIRMINGHAM—You go on in the submission, talking about financing issues, particularly in relation to specific purpose bonds, to say:

Such bonds, if structured appropriately, can provide a level of market-based discipline to the project.

What prerequisites are there for such bonds to be structured properly and to work appropriately?

Mr Wonder—We address a couple of prerequisites on page 8 of the submission. You will see in the third paragraph that one is about the servicing requirement in regard to the discipline. I will just quote from the submission, if I may:

... the bonds need to be serviced from income generated by the infrastructure project rather than from general tax receipts.

That internalises the relevant costs and returns to the project itself. Another is about the real cost of borrowing. I am not saying this is the case in this instance, but in general terms people talk about issuing bonds and about what else might be done in conjunction with that. Tax concessions often come up and the question then is: what do you call the real cost of borrowing? If a concession, whether it be tax or another one, is actually being made to make the particular finance vehicle more attractive then the real cost of that finance vehicle has to take into account those other concessions.

Senator BIRMINGHAM—So the second point there relates to not having artificial incentives that would change the market structure for such bonds?

Mr Wonder—The key point I am making is that the full cost of that instrument, including any wider ramifications of it, needs to be addressed as the real cost of borrowing.

Senator BIRMINGHAM—I guess the key point for this project comes from the first point that you made—that is, the need for the project to be delivering an income stream through which it can service those bonds.

Mr Wonder—Yes.

Senator BIRMINGHAM—You have reflected on the fact that such specific-purpose bonds were phased out during the eighties and nineties, so it has been some time since Australia used them. In work that the commission may have done previously looking at how they were used, what timelines are required to provide enough market incentive for bonds to work as an investment and therefore what is the need to have income coming in to provide a return on that investment?

Mr Wonder—I do not have any particular comments to make on that. I am happy to reflect on what other studies we have done in that regard. I have not done an exhaustive search on that over the years. As you said, it goes back some time—many years in fact—and so does the commission. I am happy to send you any work that gives any guidance on that question, but I do not have any further comments on it.

Senator BIRMINGHAM—Was that phase-out in the use of bonds a global trend in western economies?

Mr Wonder—I think it is a mixed experience; some countries have gone down that track and others have not. Again, in that publication that I referred to earlier, the staff working paper, there is some break-up internationally of the different financing vehicles that are being used, not for this particular project but in general terms—how public-private partnerships versus bonds versus other financing vehicles are used in Australia vis-a-vis other countries. My recollection is that the experience is quite diverse.

Senator BIRMINGHAM—Touching quickly on a different subject, you spoke about the need for maximum scope for competition across the different areas of broadband services. Do you think, or has research demonstrated, that the wireless broadband market is competitive?

Mr Wonder—We have a presence of wireless in the market, as you are aware. That attests to that issue in general terms. How it is going to unfold in the future is, I suppose, of key interest. Without doing some very careful market analysis of wireless versus its competitor technologies, I could not really tell you about the market shares and the like that wireless is likely to hold vis-a-vis its competitor technologies into the future.

Senator BIRMINGHAM—Within that wireless market at present, I understand, no one company holds more than 50 per cent of the market share. There are numerous investors. Is that

the type of marketplace that you would usually describe as a reasonably competitive marketplace?

Mr Wonder—It is a tricky issue as to what is a competitive marketplace. You could find that at various points in time what is a competitive marketplace, in terms of the shares of different technologies, may change. It depends on consumer preferences for different characteristics. Speed, quality, timeliness and the like will all come into the fray. Those characteristics will be of varying importance to different groups depending on their particular significance at any point in time and will steer consumers in one particular direction as opposed to another. Those are the sorts of influences on the demand side. Then on the supply side it is highly difficult to predict what technologies will come forward into the future. Will we see a ‘killer technology’, so to speak, that comes forward and dominates all others and pushes them aside? It is very difficult to say what will be a competitive share. Then there is also the question, depending on how those demand and supply characteristics unfold, of what an efficient number of suppliers would look like. But I do not think that it is X number with such-and-such shares, all laid out. As I said in my opening remarks, I think we need to leave scope for that to unfold.

Senator BIRMINGHAM—So picking a winning technology has a high order of risk?

Mr Wonder—Picking a winning technology that does not leave scope for the competition amongst the others would be costly in the sense that, as I said, on the demand and supply sides there are preferences for various alternatives depending on the particular characteristics of what different market segments need.

Senator BIRMINGHAM—It would be a concern if certain actions or policy actions reduced scope for competition amongst other technologies?

Mr Wonder—Yes; I think we need to focus on what is going to promote competition. As I said in my opening remarks, that remains a key. Exactly how that is done is something that there is a lot of discussion on. It is not something that we have done work on in recent times.

Senator BIRMINGHAM—So, building spectrum access that is important to one technology as a stick, on one hand, to try to influence the market share in a different technology would raise certain concerns about free growth on competitive tension between those technologies?

Mr Wonder—We have not looked at the premise to your question—‘the stick from one technology to another,’ I think were the words you used. We have not looked at that.

CHAIR—We look forward to the government asking you to do so.

Senator BIRMINGHAM—I have no more questions unless Mr Wonder has anything to add to that issue of trying to influence competition in one area of the broadband market by wielding power in another area.

Mr Wonder—No; I do not have anything to add.

CHAIR—Your submission talks about policies or regulations that unnecessarily inflate the costs of using new ICTs and you say that unnecessarily reduced competition can lead to delayed

uptake—and delay in enjoying the benefits thereof. Minister Conroy has said very clearly—it was reported in the press from Tamworth this week:

We are saying up front this will be a cross-subsidy, one wholesale price averaged across the country.

He went on to give an example of the use of an ATM in Tamworth. He said:

I mean, fair dinkum, if you pay the same amount to use an ATM in Martin Place in Sydney as you do here ... we can do it for an NBN network.

Is that not the sort of cross-subsidy that would inevitably place upward pressure on prices and vex competition in ways that would at the very least exercise the minds of the Productivity Commission to delay uptake and reduce the benefits?

Mr Wonder—We have not looked at the particular initiative that you refer to, so I do not think I could make any remarks on that.

CHAIR—You must be able to comment on that in the abstract as part of a market and competition cost principle.

Mr Wonder—Yes, I was going to refer to the submission, where we do make some comments in respect of community service obligations, separately identifying the objectives that are relevant to community service obligations and making the funding of those transparent and separate. We refer to earlier comments that we have made elsewhere about cross-subsidisation in order to pursue those social objectives, but beyond that I do not think I could add anything further.

CHAIR—We look forward to the government asking you to add more.

Senator IAN MACDONALD—I have one question. The Productivity Commission recently held a roundtable. Do you remember Professor Ergas's submission to the roundtable?

Mr Wonder—Yes. There has been some comment in the press on that, I have noticed. I will provide a little bit of background on what that roundtable was about. The Productivity Commission regularly conducts roundtables on different subjects. This year in August, we held a roundtable on evidence based policy. We invited a number of speakers, including international speakers and the like, to give their thoughts about how evidence based policy might be taken forward and how it is practised. One of those speakers was, as you pointed out, Henry Ergas. He gave us a presentation on a topic of his own choosing rather than, as I have seen it reported in the press, a study commissioned by the Productivity Commission.

Senator IAN MACDONALD—But what was his subject?

Mr Wonder—His subject was an outline of how they went about the cost-benefit assessment of the NBN.

Senator IAN MACDONALD—Does the Productivity Commission have any view on Mr Ergas's work? Do you agree or disagree? Are you doing work on it? Are you filing it in your papers? Are you just ignoring it? What is its status?

Mr Wonder—We have a view on the work in that it was useful and illustrative of how evidence based policy could be done, which was the main purpose of the workshop. This was a topic that was mixed with all sorts of different topics. It was not focused on communication, NBN or anything else. What are we doing with it? We publish the proceedings of those roundtables. It takes a little bit of time to pull those together, because we try to capture the richness of the discussion as well as the presentations. We will pull together that work, including Henry Ergas's presentation, as well as half a dozen or more others—I cannot remember exactly how many—and the discussions on those.

Senator IAN MACDONALD—Sure. I mean there have been questions about the cost-benefit analysis for the NBN, which clearly has not been done. Some are suggesting you should be doing it. Whilst I accept that the government gives you references, does the commission have a view on Mr Ergas's work, particularly as it relates to the NBN rather than to evidence based policymaking—though they should be the same?

Mr Wonder—No, we do not. The reason for that is that, as I mentioned earlier, we were not as interested in the particular topic of the NBN as we were in how to go about the evidence based approach that Mr Ergas chose to illustrate by way of the NBN cost-benefit assessment that he presented. So we were not relying on his work, or anyone else's work, as input to particular projects that the commission was doing; rather, we were interested in it for the reasons of taking evidence based policy as an approach forward in a more satisfactory way.

Senator IAN MACDONALD—I think that in your submission you said something about the need to gather evidence that demonstrates the costs and benefits of the NBN to the wider community. How extensive and in what sort of depth and quality do you think is the evidence base for the fibre-to-the-premises NBN proposal?

Mr Wonder—I am not aware—not that I should be—of what work the government has done in that regard. That really is a question for—

Senator IAN MACDONALD—I do not think they have done anything, but I am saying: what do you think—

Mr Wonder—I am not aware of what has been done, so I cannot comment on the adequacy of it.

Senator IAN MACDONALD—In your submission you say that good policy requires evidence based work, and that was the extent of Professor Ergas's paper as well. I am just wondering: having said that, how extensive and to what quality do you think that evidence base needs to be in relation to the costs and benefits of the NBN? I appreciate that you have not done it, but you are saying it needs to be done and should be done. To what extent should it be done?

Mr Wonder—Desirably, cost-benefit analysis can be used as a tool to inform decision making. Different cost-benefit assessments will present different challenges. Sometimes they are

more straightforward than at other times: for example, where there is less uncertainty in what the benefits and cost flows are. You can think of projects where that is the case vis-a-vis others. Other cases are far more challenging, and without doubt this is a very complex topic that has all sorts of issues surrounding specification of what applications this technology will be used for, what value those applications attract and therefore what numbers you actually put in your cost-benefit analysis. That is no small challenge, as you would appreciate. Desirably, if we could gather all that information then that would obviously be extremely useful, but we do not have that information at the moment, so I was describing earlier a more incremental approach.

Senator IAN MACDONALD—Sure, but do you think Professor Ergas has that information in his assessment?

Mr Wonder—I do not know. You could ask Professor Ergas; he is on your program later this morning.

Senator IAN MACDONALD—I am asking the Productivity Commission, actually.

Mr Wonder—I cannot really comment on what Professor Ergas has.

Senator IAN MACDONALD—As a result of your roundtable this should be well in mind, but can you tell us the risks of not doing a cost-benefit analysis? I refer to this project we are talking of, but you can talk generally, I guess.

Mr Wonder—The risks go to making decisions on a more limited set of data and information—not having any information about being able to specify capital approaches in terms of what particular rollout is appropriate, where those benefits are going to be incident and the like. It is not only cost-benefit analysis, I might add, that would give you that information—there may be other analyses that are being conducted that provide that information—but a cost-benefit assessment is one framework that you can enter all of these things into.

Senator IAN MACDONALD—But my question was: what are the risks of not doing it? I think you have answered that.

Mr Wonder—Yes.

Senator IAN MACDONALD—Potential investors would clearly want to do their own cost benefit analysis, wouldn't they? The government are expecting, I think, \$12 billion in private equity. Obviously they will be doing their own cost benefit analysis.

Mr Wonder—I cannot speak for them as to what they would do in their own assessments, but I would not be surprised to hear that they would be looking at their investments and the potential payoffs and costs.

Senator IAN MACDONALD—Of course. You are a member of the Productivity Commission. Are you a commissioner?

Mr Wonder—No, I am not a commissioner; I am Head of Office. I am not a statutorily appointed commissioner; I am a public servant.

Senator IAN MACDONALD—Clearly, private investors would need some sort of cost benefit analysis. Why do you think it is that the government is not doing a cost benefit analysis?

Mr Wonder—I do not know whether they are doing a cost benefit analysis or not.

Senator IAN MACDONALD—They are not.

Mr Wonder—I am not privy to that information.

Senator LUNDY—I would like to place on notice a question as to the Productivity Commission's views about the impact on consumers of vertical integration and horizontal integration within the telecommunications sector in Australia and what some of the observations of the Productivity Commission have been with regard to industry structure over the years.

Mr Wonder—So you would like me to pull together the work that we have done in that area and make it available to the committee?

Senator LUNDY—Yes, that would be helpful.

Mr Wonder—I am happy to do that.

Senator LUNDY—Thank you.

Mr Wonder—There is some work, albeit with some age now, but I will send you what we have.

Senator LUNDY—We have had a vertically integrated and a horizontally integrated market for quite some time.

Mr Wonder—Indeed.

CHAIR—Mr Wonder, in closing, you say in your submission that perspective and input needs to be got. I note that your answer to Senator Macdonald is that part of the risk of not doing a cost benefit analysis is that you might base your decision on limited information. You talk in your submission about the need to consult not just with a particular part of a community, not just a particular sector, but with the wider community. In your submission you also talk about optimism bias and how that may or may not be influenced by private sector PPSs. What is your view as to whether the government has sufficiently consulted with the wider community as opposed to a particular sector? Do you think that in this particular case there is a prospect that the consultation has been so limited to the particular sector that would be more likely to be seized with optimism bias in this area? I note that the Productivity Commission has not been asked. Michael Stutchbury suggested on the weekend that you have been sidelined by the process.

Mr Wonder—I would make a couple of comments. First of all, I would make the point that we are not the right people to ask about what consultation processes the government has undertaken. Indeed, I could not even describe those processes because I have not been part of them.

CHAIR—You are not in the tent, are you?

Mr Wonder—I am not in the mainstream of that. I am the wrong person to ask that question. The comments in the submission are made from the economy wide perspective and charter the Productivity Commission has. In our work, the government expects us to look at whatever reference they have asked us to focus on and take a community wide perspective. When we take a community wide perspective, that means looking at some of the impacts that might be beyond the immediate target group. In the work that we do, as you would expect, in assistance to industry and the like, there are often those sorts of implications. It is not surprising therefore that in this particular instance we would say the same thing: the costs and benefits need to be brought to bear for examination from a community wide and economy wide perspective.

CHAIR—Thank you very much. Let's hope, certainly from my perspective, that the government reflects and decides that there may be some wisdom in bringing the Productivity Commission into the tent and seeking your views, particularly on this project. Thank you very much your time and your evidence.

Mr Wonder—Thank you very much.

Proceedings suspended from 10.54 am to 11.04 am

DOWNEY, Mr Peter, Chairman, Cables Downunder

CHAIR—Welcome, Mr Downey. It is potentially an offence for a person to attempt to interfere with evidence that would otherwise be given by a witness. You are protected by parliamentary privilege in providing your evidence. It is also an offence to give false or misleading evidence and it is potentially a contempt of the Senate. If at any stage you wish to give evidence in camera then make that request of the committee and we will consider it. You provided us with a submission. Are there any amendments you want to make to the submission?

Mr Downey—No, there are not.

CHAIR—I invite you to make a very brief opening statement.

Mr Downey—Cables Downunder is a community based lobby group from Sydney. We initially set out protesting against the Optus cable but since then we have widened what we have been doing and changed basically to electricity because if the electricity goes underground then the communications cables by necessity must go underground.

Firstly I would like to thank the committee for this opportunity to put forward the views of Cables Downunder. Cables Downunder had its beginning in 1995 as the peak body coordinating and supporting the efforts of smaller community based organisations throughout the Sydney region. These bodies were protesting against the erection of the overhead Optus cable. While we did not totally prevent the erection of the pay TV cables, we were instrumental in preventing them from being erected overhead in the suburb of Haberfield as well as in large areas of the Sutherland, Pittwater and Lane Cove shires and a number of individual streets in Sydney suburbs where the residents not only protested the erection of the cable but took up petitions and statutory declarations stating that they would not avail themselves of the service while ever the cable was overhead.

Today we are a very different organisation to the one during those heady days of demonstrations. We have turned our attention to all overhead cables, electricity as well as communications. Instead of looking at only aesthetic and environmental issues, we have broadened our approach to address issues of reliability, economics, road safety and bushfires. We consider both the causes of bushfires and the effect of the destruction of overhead communications infrastructure on the community's ability to fight them.

On a personal note, I have been the victim of an unreliable overhead communications system. Suffering from severe chest pains and having had cardiac surgery, I rang my doctor for advice. He advised me to call an ambulance immediately to take me to hospital for investigation and monitoring. On trying to call an ambulance I was shocked to find that both my phone lines were dead as well as my voiceover IP phone, which was connected to the Telstra cable. Living in an area of poor mobile coverage and in severe pain I had to walk out to the middle of the street to make a mobile call to 000.

We researched the trends overseas and, to our astonishment, found that the majority of communications and electricity cables are underground. As an example, Germany began burying

telegraph cables in 1845, London began burying electricity cables in 1882, followed by New York in 1888. We have even found that many Third World countries, such as Rwanda and Somalia in Africa, have underground fibre optic and electricity networks. Today the UK is 85 per cent underground and Europe is 70 per cent and rising. If there ever was a good reason to look beyond our borders for a solution, this must surely be it. We should not sit on the other side of the world using outdated technology because of our relative isolation or because that is the way we have done it in the past but rather move forward using world's best practice.

In 2002 McNair took a poll in which they found that the majority of people polled not only wanted their cable delivered services buried but were prepared to pay a levy to achieve it. The issue is so popular that at one full-day forum we held on the subject for 150 councillors from across Sydney we had to ask the participants to leave at 5.30 pm as they still wanted to continue but we were already two hours over time.

The issue of burying cables is of significant concern to local government in New South Wales. It has been raised at three separate New South Wales local government association annual conferences, and it is the association's policy that all cables in major population centres in New South Wales should be buried. At the same time, it is current policy of the New South Wales parliamentary opposition to initiate five major pilot cable burial projects prior to moving to the burial of all cables in major population areas of the state. It should be recognised at this stage that any overhead communications cables such as the NBN will be an impediment to any electricity cable burial projects and as such will be less than popular.

At this stage, I do not believe that the general public are aware that the NBN will be erected overhead. At various functions I have attended recently at which I have raised the issue there has been stunned silence followed by comments such as, 'You are kidding, aren't you?' One gentleman even stated that he was an engineer—and he did not go out into the field, by the way—working for Optus at the time that company's cable was being put up, and he said, 'We went through sheer hell erecting the Optus cable and I would have thought that, after that example, no-one would be mad enough to erect another overhead cable in this country.'

I must also state for the record that I and members of our executive are under heavy pressure to arrange community meetings and demonstrations from people who fear that the cable will go overhead. Once it is realised that the cable will go overhead I expect that Cables Downunder as we know the organisation today will either be swept aside or taken over by radical elements and moderates such that I will no longer be heard. It does not matter what size the overhead cable is, it will be the fact that it is an overhead cable that raises the ire of the public.

In addition to these issues, in general terms we are very much in favour of the NBN—provided that it is affordable and carries as many services as possible—if for no other reason than to get maximum utilisation from it and thereby reduce the access cost. In fact, we have no problem with the government raising debt to pay for its establishment provided that debt is not onerous and is well managed. After all, this is a normal commercial vehicle used by most public companies. As an example, two of Australia's most iconic projects, the Sydney Harbour Bridge and the Snowy Mountains scheme, were largely financed by debt. Likewise, both these projects were built using advanced engineering techniques without compromising their operation by taking shortcuts or using cheap alternatives.

The NBN is a most important piece of infrastructure and this country needs it to remain truly competitive. It is also important that it not be built on the cheap as that would increase running costs and reduce reliability—a liability we will leave for future generations to carry. There is no greater example of the fragility of overhead cables and infrastructure than the recent Victorian bushfires. Many Victorian communities were put at risk simply because the overhead cabling that provided them with communications and power was destroyed long before those communities were aware of their peril. Should there be any doubt of this, simply ask the survivors of places like Kilmore East and Marysville.

In closing, Cables Downunder recommends that the NBN cabling be buried and that all state governments be approached and given the option of burying their overhead electricity assets at the same time. This would gain economies, in that both networks would be buried at the same time, ensure increased reliability of those networks, which in reality are interdependent because one will not work without the other, and increase economies and reduce costs through cross-subsidisation.

Senator NASH—Thank you very much for your opening statement. Can you just describe for the committee how big the cables are and where they will actually sit as is being put forward at the moment on the actual cabling system that exists.

Mr Downey—I wish I could take you and show you some of the cabling that we have around where I live. You will see in a submission by Dr Kelso and me that we understand currently it is quite common to have high-voltage cables—say, 11kv or 22kv—at the top and 240 or 415 underneath. Then a metre below that is the Optus cable, and below that again is the Telstra cable. I would imagine that, if the NBN goes overhead, it will be up to a metre below that again.

Senator NASH—We might just check that, because my understanding was that they were actually going to run it where the electricity cables currently exist.

Mr Downey—That would create a lot of problems. You currently have people who are trained to work with communications. They are not trained to work with or in the vicinity of high-voltage cables. If you are going to mix the two of them, it will require further training for the people concerned and it will raise occupational health issues.

Senator NASH—You have obviously done a lot of work on trying to get the electricity cables underground. Is that because of the visual aesthetics or are there other reasons you wanted them buried? Or is it mostly to get them out of sight?

Mr Downey—Initially it was aesthetics. I can only speak for New South Wales but I imagine the issue would not be much different in other states. In New South Wales we found that 10 per cent of the road deaths are from people hitting power poles. That is because of the positioning of the pole relative to the kerb and gutter—it is usually very close—and the nature of a pole. It is a hard, unforgiving object. It is relatively small and so it concentrates the force of the collision over a small area.

We also found quite a lot of data in this publication, called *Putting cables underground: report of the review of options for placing facilities underground, as required under clause 49 of schedule 3 of the Telecommunications Act 1997*. There is some data supplied by the energy

distributors themselves. There are a number of ways of looking at that. If you take them at face value, you find that, by going underground, you get an increase of between five and 10 times greater reliability and the cost of maintenance is halved. That is on their figures alone. When I cite figures, they come from publications like this. In an IPART report, we found that Energy Australia and Integral Energy spend between them \$50 million a year on trimming trees, which is another cost that you would not have to bear if they were underground.

Senator NASH—Are you aware of the difference in funding that would be needed to go from what is being proposed with the aerial cabling and move it all underground? Do you have any kind of ballpark figure that you have done any work on?

Mr Downey—Yes. In 2001-02, we were given certain information by the New South Wales government and we were asked to do some modelling on it. I have left some CDs and DVDs. A copy of that modelling is on there. We found that, by the time you put in the costs, the number of buildings involved and the offsetting costs such as trimming trees that you would not have to do et cetera, it would take 40 years. That is based on the fact that you would have to make and bury 62 kilometres of cable a week, which is the easy part. The hard part is cutting the cable and splicing it where it goes into the houses. If you amortise the cost to the consumer, it would be 62c a week on their electricity bill and \$20 a year on their motor vehicle registration. Actually it should go onto their insurance rather than their registration, but it is more convenient to put it on the registration because you are only collecting from one entity instead of 20 or more.

Senator LUDLAM—Have you made direct representation to the communications minister or to the government on this issue as far as the NBN rollout is concerned?

Mr Downey—No, I have not, but I have had meetings with two members of the government who I believe have passed that information on.

Senator LUDLAM—Can you tell us a little bit about your group. Is it a membership of individuals or of constituent groups?

Mr Downey—Both.

Senator LUDLAM—How many members does your group consist of and are you just New South Wales?

Mr Downey—Just New South Wales, but it is quite interesting that at the moment—and this does happen from time to time but the issue seems to be hotting up at the moment—we are getting calls from interstate and I have had emails and faxes from New Zealand.

Senator LUDLAM—We are in the early stages of a rollout in Tasmania. Is there any interest there and are you getting a sense of the government's intentions as to how much will be aerial and how much will be buried from the rollout there?

Mr Downey—I can only quote from an interview I saw on TV that 70 per cent of it would be the overhead and 30 per cent of it would be underground.

Senator LUDLAM—What was the source of that?

Mr Downey—I believe it was an interview with the Prime Minister. It was on a news broadcast.

Senator LUDLAM—What is the approximate cost ratio for cabling overhead versus underground, just for the upfront costs?

Mr Downey—That is beyond our ability to judge at this stage.

Senator LUDLAM—Do you have a rough idea? Is it five to one, or 10 to one, or 100 to one?

Mr Downey—No, I do not believe it would be anything like that.

Senator LUDLAM—You have made some quite useful points on the long-term costs and also the associated costs—that is, trimming of trees, road accidents, maintenance and so on. Is it your intention to do that modelling or would that be a useful question to the committee to pursue?

Mr Downey—It is beyond our resources to be able to do it at this stage because we do not have access to the data, but it would certainly be good for the committee to look into. I would suggest, though, that you look at the ongoing costs for things such as reliability that I was talking about earlier. Some of the worst bushfires I have been in as a member of the volunteer bush fire brigade, as it used to be, were started from power lines and one of the biggest problems was communications because in a lot of hilly areas mobile phones and so forth just do not work. Even the radios in the trucks do not work because of the hilly nature.

Senator LUDLAM—From the publication you referenced before, or from any other resources you have along these lines, is it the case that glass fibre is more fragile than copper or coax? Is there any data to support that?

Mr Downey—The easy answer to that is that we are talking about a piece of glass. You can only bend it in a certain radius; if you bend it anymore than that it will break. It has to be handled with care. It is fragile. Yes, you can stiffen it up by shielding and so forth. The other side of that is that when does break—say a tree limb comes down across it—if it is copper wire you can get by in a lot of cases by just twisting the two ends together. Obviously you cannot do that with fibre-optic; you basically have to butt weld the two ends together. It is a very highly skilled and expensive process.

Senator LUDLAM—Can you point us to any references or data that would help us quantify those points? Where could the committee go to for operational data or statistical data about reliability?

Mr Downey—I would talk to people like Pirelli Cables, who make it.

Senator LUDLAM—You said also in your opening statement that you were a bit worried about being pushed aside by radical elements. I wonder whether they are the people you refer to in the 'Future problems' section of the Cables Downunder submission, who have threatened, if cable is installed, to drive a truck with a hook attached down the street ripping it down. What did you mean by those comments about being pushed aside by radical elements? It sounds a bit alarming.

Mr Downey—I get phone calls from time to time. The guy that I refer to in the submission with the very large truck threatened to do that because he was just so infuriated.

Senator LUDLAM—Is it just a visual thing for people? What is it that inflames people so much about overhead cabling?

Mr Downey—In his case it is both visual and because he already has a problem getting large vehicles on and off his property as a result of existing cables. When the Optus rollout was on, I actually talked a neighbour out of throwing a grappling hook over the Optus cable, putting it on the back of his four-wheel drive and dragging it down.

Senator LUDLAM—Good work.

Mr Downey—I should state that we are not in favour of that. If we were, I would not have talked him out of it.

Senator LUDLAM—I understand that. You have put that in writing as well—that you are not advocating violence or, as in that case, civil disobedience. It is probably very difficult to quantify, but how many phone calls along those lines are you getting?

Mr Downey—At the moment it has ramped up. I get as many as two a day.

Senator LUDLAM—From people threatening civil disobedience around that sort of thing?

Mr Downey—Yes.

Senator LUDLAM—That is remarkable. What do you encourage them to do when you are on the phone with them?

Mr Downey—Wait and see what happens. It may not be as bad as they think.

CHAIR—You say in the Cables Downunder submission that there is ‘a great desire in the electorate for the current overhead cables’ to be underground. You have gone some way towards this in the evidence that you have provided to Senator Ludlam. Do you have anything other than compelling but nonetheless anecdotal evidence about the extent of the concern in the electorate about overhead versus underground cabling?

Mr Downey—It is interesting; I will give you the most recent example. My next-door neighbour was a missionary in Ghana for 12 years. He told me that most of the infrastructure that is overhead here is actually buried in Ghana. He cannot understand why it is overhead here. He invited me to a church dinner, at which there would have been about 150 people. I was asked what I did for a living. When I said I was retired, they asked, ‘How do you fill your time in?’ and I told them. When I mentioned that the NBN would be going overhead they just could not believe it. They said, ‘we should not have any overhead cabling.’

Senator LUDLAM—Do you have any empirical evidence? You are based in New South Wales. You say you are getting phone calls and emails from all over the country. Do you have

any empirical, Australia based, evidence to substantiate your claim that there is 'a great desire in the electorate' for cables to be underground?

Mr Downey—If I could give you an example, back in, I think, 1998, the committee writing the *Putting cables underground* report visited Western Australia. At the time, the government, through the electricity distributor and the council over there, had a project to bury existing power lines. They asked for expressions of interest, and that is all. There was no money involved. They just asked for expressions of interest to find out how many people would be interested in burying the cables. Most of the replies came back with cheques.

CHAIR—Do you have any evidence of that?

Mr Downey—Not in writing, no.

Senator LUDLAM—Mr Downey, what is your understanding of the need for local government consent as far as laying cable overhead or underground? Does the government need consent from local government authorities before it makes a decision on where the network goes?

Mr Downey—As a result of the report that I referred to earlier, changes were made in the Telecommunications Act which required Telstra and Optus to lodge a DA with the local council prior to erecting any overhead cables.

Senator LUDLAM—Is that just in those LGAs that have passed resolutions or is that now right across the board?

Mr Downey—That is Australia-wide.

Senator LUDLAM—What is the next best option? If the government later today comes back and says, 'It'd cost us \$100 billion to put the entire network underground,' what would you advocate for then?

Mr Downey—I do not believe the figure would be anywhere near that high. I would want to have a look at the figures and go through them. We have had this before. An inquiry into the undergrounding of power lines in New South Wales was conducted by the Independent Pricing and Regulatory Tribunal. I have to say that the technical side of it was excellent, but, when the economists got hold of it, they put some really stupid statements in there. For instance, they said that there would be additional costs involved with putting the cables underground such as for the landscaping of nature strips and for the provision of bubblers, public conveniences and bus stops. They also put in the figure of \$1,500 for erecting street lighting. They were advised by the Australian Electrical and Electronic Manufacturers Association, which is now part of the Australian Industry Group, that it would cost less than \$1,000. In fact, I went and got quotes and, for a one-off, I could have done it for under \$1,000. It was not changed, even though they were advised twice in writing and once verbally, at the public consultation.

Senator LUDLAM—I wonder whether I could ask you to help the committee. I think it would be worthwhile for us to get some sense of the relative short-term and long-term costs of aerial versus underground cabling. If you can provide us with any reference material or studies

that you are aware of that would help us with either the direct or the collateral costs of either option that would probably be helpful.

Mr Downey—I believe there are costs in the study.

Senator LUDLAM—What date is that study?

Mr Downey—It was signed on 24 November 1998.

Senator LUDLAM—That is 11 years old. I suspect we are going to need something a little bit more up to date than that. In your work, or from your membership, if you are able to provide us with anything by way of reference I think would be really helpful.

Senator IAN MACDONALD—Or could you tell us the best person to go to? Is there a recognised group of engineers or something that do this work, Mr Downey?

Mr Downey—Not that I am aware of. I am in constant contact with people in the industry. By the way, we are not talking about trenching; we are talking about techniques like horizontal boring, where you bore a hole underneath the ground. In this case, If you are going to do electricity at the same time, you pull two conduits through instead of one. I was talking to someone in the industry and he said that costs had not gone up, even though fuel, labour and so forth had. The technology is advancing at such a rate that it is offsetting the increase in costs.

Senator LUDLAM—Just to restate the request: if you are able to, through your networks, encourage specialists or people who might have this information to provide it directly to the committee, I think it would really help us.

Senator IAN MACDONALD—Just on that point, people are doing what you are proposing every day, I guess, somewhere in the world. Is it a simple equation of working out what it is costing someone who is doing it today and multiplying that by the circumference of Australia or something?

Mr Downey—I have left a number of CDs here. One of them is by a company called Trenchless Advisor. Amongst his clients are Energy Australia, Integral Energy, New South Wales railways and Sydney Water. His business has grown at such a rate that he has now opened an office in Perth. There is such a call for his services. For example, if you are Energy Australia and you want to bury a cable or go overhead then you go to him and he will not only do the design work and get you all the approvals but also give you a shortlist of companies who have the necessary expertise to do the job.

Senator IAN MACDONALD—Would he be the sort of person who, at no cost because the committee has no money, might, just as a public service, give us a rough, back-of-an-envelope costing of what you are talking about?

Mr Downey—I will ask him.

Senator IAN MACDONALD—Sorry to interrupt Senator Ludlam’s questioning, but are you saying that it is trenchless? So do you start at one end of the street with a pit and then push a cable through to the other end of the street?

Mr Downey—Yes, you basically dig a hole of two foot by three foot, in the old figures, at your entry point and then you put another one at your exit point and you just drill a hole underground. These things have sonar heads in the boring head. The guy walks down the street with a wand and that talks to the boring head. He has a readout on his wand which shows him the direction of the boring head—whether it is going up, down, left or right—and the depth. That is relayed by wireless back to the operator. In a lot of cases they will go off to someone like Dial Before You Dig and they will tell them where all the other services are, but before they do that they will often go down the road with ground-piercing radar, which tells them where the other services are. So the driver actually has a printout. He can steer the head and it comes out at the next pit. The longest known bore that they have done is 2.4 kilometres.

Senator IAN MACDONALD—Do you know if anyone is doing that in Melbourne or Hobart? Perhaps we can go and have a look at it in the next couple of weeks.

Mr Downey—They are certainly doing it in Western Australia and they are doing it in parts of Sydney for the authorities that I mentioned earlier. In fact there is one job that they did under the Hawkesbury River at Wisemans Ferry. They went underneath the river through sandstone and they came out on the other side of the river, and it is a fairly wide river. They came out within five centimetres of their target point. They then put a back reamer on, and as the back reamer is pulled back it opens out the hole and pulls the conduit in behind it.

CHAIR—The secretary may be in touch to get further details as to where we can investigate some of those really good examples, Mr Downey.

Mr Downey—Incidentally, that has been used in Western Australia.

CHAIR—We hear you on that. I note your answer to Senator Nash that your organisation would not be opposed to a government going into debt to build underground, and I think your words were ‘as long as the debt was well managed’.

Mr Downey—And not onerous.

CHAIR—This raises issues for other parties to answer. If, for example, though, Telstra were to decide to upgrade its existing network to fibre then the majority of that build would be underground, complementing its ducts and cables in any event, would it not?

Mr Downey—We would imagine so. However there is a body of opinion within our organisation that, in a country the size of Australia with the population density we have, competition is not really effective because you are basically just duplicating what is already there and forcing up the cost as a result.

CHAIR—Is the modelling that was done by the New South Wales government which you referred to earlier in your evidence on one of the CDs that you have provided the committee?

Mr Downey—Yes, it is; but you will have to be talked through it. I would be happy to do that at some future time. Even if somebody just wants to ring me then I can talk them through it.

CHAIR—Thank you very much, Mr Downey, for your time today and for your good fight.

Mr Downey—Thank you. If you require any further information then I can be contacted by email, phone or fax. I would be happy to supply whatever you require.

[11.42 am]

ERGAS, Mr Henry, Private capacity

CHAIR—I welcome you, Mr Ergas. As you are well aware, the evidence that you provide to this committee is public. It is protected by parliamentary privilege. If at any stage you wish to provide your evidence in camera then you may request to do so. I understand, Mr Ergas, that you are appearing before us in a private capacity today. We have your submission. Do you wish to amend it in any way?

Mr Ergas—No, I do not wish to amend it.

CHAIR—Do you wish to make a brief opening statement?

Mr Ergas—Yes, merely to make two points if I may. The first is to apologise for the fact that my co-author is not able to be here today—he was intending to but was unable to at the last moment. The second is to emphasise that obviously the views we express are very much our own.

Senator BIRMINGHAM—Thank you, Mr Ergas, for your submission and for your time today. You have been a bit of a focus of commentary on issues around the NBN and I am very pleased that you are appearing before us to answer the questions that we all have for you today. I want to turn first of all to issues of pricing. Your paper has discussed how Australia's broadband pricing might compare with OECD countries. In particular you have highlighted the role that subsidies might play in distorting some of those analyses of pricing issues. What is your understanding of access subsidisation or price subsidisation in other OECD countries and how that has perhaps distorted the perceptions of pricing in Australia and elsewhere?

Mr Ergas—Do you mean specifically with respect to next-generation access networks?

Senator BIRMINGHAM—Yes.

Mr Ergas—In a number of countries there are subsidies available to next-generation access networks. The extent of the subsidies varies, as does their form, and that makes it difficult in a number of instances to know the exact quantum of the subsidy. For instance, in a number of European countries—particularly in France, to a lesser extent in Austria and to some degree in Sweden—the local authorities have subsidised the deployment of fibre optic networks of varying capacity, varying design and varying reach. The subsidies they have provided are not always transparent, and as a result it is difficult to know exactly how much impact they have had on prices. Because of that, there is an element of uncertainty and potential distortion in international price comparisons which it is obviously difficult to correct for.

Senator BIRMINGHAM—Thank you. You have gone on to talk about alternative ways in which broadband development, technology and rollout can be stimulated, particularly your proposal for a voucher system as some sort of means to provide a possible demand-side stimulus. How do you envisage that such a system could work?

Mr Ergas—There are a number of mechanisms that can be used to provide subsidies. In some cases, the subsidies are internal to an operator, and that is what we refer to as a cross-subsidy. Typically, a cross-subsidy involves charging a higher price above cost in one area so as to charge prices that are below incremental costs in other areas. That was the approach that we broadly had in the PMG and then to some extent in Telecom. As of 1987, with the then government's discussion paper and then the white paper on communications reform, the approach adopted was one of moving to make subsidies explicit—to move away from reliance on cross-subsidies to reliance on more targeted subsidies—and that of course was the policy direction that was taken throughout the infrastructure industries subsequent to the Hilmer report.

There are a range of ways in which you can provide explicit subsidies. The two main and most obvious ways in which you can do so are that, first, you can provide subsidies to producers, or, second, you can provide subsidies to consumers. Generally, we believe that it tends to be more efficient to provide subsidies to consumers than to producers where two conditions are met. The first is that the economies of scale in supply are not overwhelming, so that you can have a range of approaches to supply. The second is that consumer needs differ, so that some consumers require one variety or have a demand for one variety of a product and other consumers have a demand for another variety of a product.

In the schemes that we provide, for instance, for subsidising satellite access in remote areas, what we have done over the years is to move to what are de facto voucher schemes. The subsidies essentially go to the consumer. That would likely be reasonably efficient in the supply of high-speed broadband services because, inter alia, it would allow for competition between alternative modes of supply and, in particular, wire line and wireless supply and within wireless, as between fixed wireless and mobile wireless. So that is the type of mechanism that I would have in mind, and it is very similar to the mechanism that a very large cross-section of economists, including several Nobel laureates, recently recommended to the Federal Communications Commission in the United States.

Senator BIRMINGHAM—If we look at those two preconditions that you mentioned part way through there, Mr Ergas—the first that the economies of scale are not overwhelming to investment and service delivery and the second that consumer needs differ—obviously, from your comments, you think that in the broadband marketplace those two conditions are very clearly met.

Mr Ergas—I believe they are met. Obviously, one can always be disproved by subsequent outcomes. My approach would be to say that if we think this is a reasonable approach and consistent with economic efficiency and social equity then we should try it, and if it does not work let us look at alternatives. The reason I believe those conditions are met, particularly the condition with respect to economies of scale and scope in wireless supply, is that, looking internationally, what we see is competition both between alternative forms of wire line supply and, perhaps even more importantly, between alternative forms of wireless supply.

Senator BIRMINGHAM—Do you see that such a voucher system, if put in place, is something that would be required indefinitely, and, if so, in what sorts of circumstances? Or do you think that it has the potential to stimulate enough investment and competition in the marketplace so that eventually all such services could be provided on a commercial basis?

Mr Ergas—It obviously depends on the costs of service in different areas. It is possible that there are some areas where service costs are so high relative to consumer incomes and willingness to pay that, if you wanted service to be provided—and it is not really clear to me that you would, but nonetheless, if you did—under those circumstances, you might require the subsidies to essentially be perpetual. That said, you would expect that in most areas it is a question of timing and that, over time, as the density of subscribers rises and as technology progresses and unit costs of supply fall, the subsidies could be wound back. There is some empirical work for the US and for France that tries to estimate models of this kind. Whilst the frameworks are fairly complex, by and large they suggest that the subsidies would be temporary.

Senator BIRMINGHAM—Changing issues briefly: have you have looked at and studied the impacts on BT, British Telecom, of functional separation?

Mr Ergas—I am sorry?

Senator BIRMINGHAM—Have you looked at the impacts on BT of the functional separation that has been imposed there?

Mr Ergas—Yes, I have.

Senator BIRMINGHAM—What do you find to be the impacts there in terms of the costs and benefits that may have accrued both to the company and indeed to the provision of services in the UK?

Mr Ergas—There is a very good paper on this that has just come out and that I would refer you to by Bob Crandall, Robert Litan and Jeff Eisenach from Brookings. What they conclude is that there is no evidence of an improvement in performance in the UK and some evidence of a deterioration in at least relative performance in the UK. The difficulty one has, as with all such situations, is that there were several factors that were changed at once. You had functional separation but you also had a significant change in the pricing of the unconditioned local loop service, the copper pair service that is used by competitors to BT, and an increase in the effective availability of the unconditioned local loop service. It is not easy to disentangle the impacts of functional separation from the impacts of those other changes but, to the extent to which people have tried to do so in a rigorous way, they have broadly taken the view that it is not obvious that the benefits from functional separation have outweighed the costs.

Senator LUDLAM—Thanks very much for coming in today and for providing the paper. You have made one of the most extensive attempts to provide a cost-benefit analysis of the NBN in the absence of many others attempting that work. The costs are relatively easy to identify, but how on earth do you model the benefits of a project like this? Some of the applications that will be used on the NBN have not even been invented yet. How do you monetise benefits of something like that?

Mr Ergas—That is always a great challenge. Of course it is a challenge that we face in many areas, so it is not solely in this particular area. For instance, it is obviously the challenge that we face when we take collective decisions about how much to invest in research and development. We do not know what will be invented. If we did it would already have been invented. Yet we somehow have to allocate resources to research and development relative to the many other

goods and services or uses of resources that are available to us. As a result, we have developed a range of ways of trying to deal with that. You can argue about how perfect or imperfect they are, but they are the ways that we have at our disposal.

One way to do that is to imagine that really what is happening is that we are constantly developing new applications, and some of those applications will be quite unexpected. But those applications in turn will generate a requirement to use underlying network capabilities. For instance, when in 1985-86 I was doing the modelling for the report I did for the then government on Telecom's investment program, I worked on the assumption that demand for data transmission would grow by about 10 per cent a year for the next 30 years. I had no idea what it would be used for and I started from the assumption that any ideas I had in that respect were likely to be wrong. But it seemed to me that there were clear signs internationally that data demand was growing very quickly and that it would continue to grow for a very long periods of time—there was no obvious saturation point for it.

I would not claim that I had foreseen email, Skype or any of the myriad applications that we now all enjoy, but I could see that they would translate into underlying bandwidth requirements. Given those underlying bandwidth requirements and plausible assumptions, you could project capacity or willingness to pay. If you project willingness to pay, effectively you are saying, 'I don't know exactly what it is that consumers will be buying, but if I look at the historical trends a rate of growth in willingness to pay of X or Y is not unreasonable.' Then you can sensitivity test that. That is broadly the first approach that we adopt in the paper.

The second approach that you can take is that you can say, 'I don't know exactly what we are going to be doing with these technologies, the existing network or new future networks but, looking at the historical evidence, I can make some informed assumptions about how that translates into productivity and hence into growth and the economy's ability to pay and so I can give the economy a productivity 'shot' as it were. I can just assume that there will be an exogenous productivity shot and model the gains to the economy from that as a way of calculating the benefits.' That is the second approach we take.

In both of those approaches what you need to do is to carefully specify what the counterfactual is—in other words, what the reference scenario against which you are assessing the change looks like. One of the most famous studies of this type was a study that was done by an economist who got the Nobel Prize in part for work which looked at the impact of the railways in the United States. You would have thought that the impact of the railways would have been huge. If you are comparing a world where there are no railways to a world where there are railways, you would imagine an extremely large impact and yet his best estimate was that the railways added about four per cent to US GDP in the long run.

Senator LUDLAM—Are you implying there that, if you had been asked to do a cost-benefit analysis on the public construction of the railway network, you would have ended up recommending not to bother?

Mr Ergas—No, I am not recommending that because that depends on the cost. What I am saying is that what you need to do is to specify your counterfactual. In this case the world was one where there were no railways. In our case what we were looking at was the situation where you had networks that were capable not of gigabit per second speeds but at least of relatively

high speeds. So what we needed to do was to try to value willingness to pay for the increment in speed and that is the approach that we took.

CHAIR—When you say that the costs of the government's NBN proposal may outweigh the benefits by some \$14 billion to \$20 billion are you basing that assessment on the best possible scenario in terms of the things that we do not yet know—the long-term unknowables—the reasons for which the finance minister has said we cannot do a cost-benefit analysis? Are you presuming that all of those things will end up in a best-case scenario and basing your \$14 billion to \$20 billion more cost than benefit on that?

Mr Ergas—What we do is assume a rate of growth of willingness to pay that is consistent with the historic trend in willingness to pay and we then assume a higher rate of growth in willingness to pay for high-speed applications relative to low-speed applications.

CHAIR—Is that a combination of both the scenarios you outlined to Senator Ludlam earlier? So it is not an either/or; you have done both—predicting use and—

Mr Ergas—No, sorry. Let us look at the two approaches. One approach is a bottom-up approach where you start from consumers and you ask, 'What are consumers' valuations likely to be of the benefits of these technologies?' You can think of the other approach as a macroeconomic rather than a microeconomic top-down approach where you say: 'I model the economy as a whole. I assume an exogenous increase in productivity and I translate that into a measure of wellbeing or welfare.' Our cost-benefit analysis is based on the bottom-up approach, but in the bottom-up approach the way that works is that we assume a rate of growth in willingness to pay and we then assume that the willingness to pay for higher speeds increases more rapidly than the willingness to pay for lower speeds. So the willingness to pay for all speeds is rising but it is rising especially rapidly for the higher speeds. That is intended to capture the fact that over time we expect that applications will emerge—they are not there yet—that make particularly good use of those higher speeds.

We then value the benefits in that way. That is an absolutely conventional way of doing this sort of exercise for new goods. We then use that valuation to compare it to the schedule of costs and that then gives you the comparison between the costs and benefits, but obviously you have to discount those two streams to the present and we use a range of discount rates to do that and that then gives you the range of the net cost associated with the project.

CHAIR—Given the long-term 'unknowables'—to use the words of the finance minister—and given the inherently unpredictable things to which he also referred, are you saying that essentially that analysis that you have outlined is the closest you are going to get to what the finance minister might call an orthodox analysis and it should be accepted as so at this stage, given the unknowables and unpredictables?

Mr Ergas—Yes, that is correct. In that sense it is no different from the situation you face when you evaluate very long-lived transport projects. You might be evaluating a transport project that involves bridges and tunnels that will have a life in excess of 100 years. Even in those circumstances where clearly no-one can predict what the Australian economy will look like in 100 years—I do not believe anyone sensibly can—you have to try to model the costs and benefits. It is the same with climate change. Climate change involves a huge number of

unknown unknowns and yet I believe most people will accept that it is sensible to try to model the economic consequences, the costs and benefits of climate change and alternative responses to it.

CHAIR—The government is certainly claiming to be able to do so.

Mr Ergas—Indeed, they are.

CHAIR—If the government were not to accept what you are saying in respect of your cost-benefit analysis and its orthodoxy at this stage, at what stage would the government ought be able to do an orthodox study—to use the words of Minister Tanner? Would it be at the conclusion of the implementation study? Is that what you expect would reveal the long-term unknowables and the inherently unpredictable?

Mr Ergas—It might make some of the elements of such an analysis clearer. What I assume is being done in the implementation study is a very detailed study of the likely costs of construction and operation as well as other potential streams of revenue. You would expect that, particularly if they hope to attract private financing, they will have to do very much what we have done, which is to project out willingness to pay and what that might likely mean in terms of revenue. It is difficult to see how they could issue a prospectus or otherwise raise finance without so doing.

The implementation study ought to go some way to make the relevant parameters clear, but even at the end of the implementation study you will still have significant uncertainties because we do not know what communications technology will look like in 20 years time. We can take informed guesses about that, and we do do that all the time. What we try to do is take those guesses in a structured, systematic, rebuttable, transparent way and to the extent to which they are then subject to scrutiny and to which we have confidence in them, they can then form the basis for our decisions.

When Telecom Australia was formed in 1975 one of the first major projects it did was the very large-scale project called Telecom 2000. Telecom 2000 was a detailed exercise in trying to assess what the telecommunications landscape would look like in the year 2000 and to derive from that a number of implications for how Telecom should frame its investment program going forward. What is to my mind striking about Telecom 2000 when you go back to it today is how, though there were many things they could not reasonably imagine, there were other things that they got surprisingly right, which were then able to be used in terms of systematic investment evaluation in the period through to the mid-1990s. What that shows to my mind is that you do need to do this kind of analysis because otherwise it is impossible to take rational decisions.

Senator LUDLAM—Your saying that if the network costs more than \$17 billion we would be better off without it implies that, amidst all that future uncertainty and enormous range of variables a degree of certainty as you have arrived at a figure beyond which we would be better off without the network. I wonder how you could justify, given the huge range of uncertainties, arriving at a dollar figure with that kind of certainty.

Mr Ergas—We explain our methods, and our methods are relatively standard I believe for this type of analysis. What you do to arrive at such a figure is say: ‘I have a range of uncertainty

associated with my valuations and I have a range of uncertainty associated with my costs. Given the range of uncertainty associated with my valuations, what is the threshold level of costs above and beyond which there is a very high probability that construction would not be efficient?' If my estimate of the benefits is too low, clearly that threshold level of costs will itself be too low, but the way we do this is by doing sensitivity tests, and again that is a very conventional approach.

Indeed, it is the approach where, in another area where there is great uncertainty about costs and benefits, which is the area of defence procurement and defence acquisition, this is exactly what the Mortimer review and others have long recommended. I do not know what the exact benefit is going to be of having an additional air warfare destroyer, but I can put a number on the threshold level of cost at which I should cap the project. So even though there is some uncertainty there, you say, 'What is the range of uncertainty?' You look at what that means for the fly-away cost, the first unit cost or whatever what metric you use beyond which it is highly likely to be better not to proceed with the project.

Senator LUDLAM—Do you use different methods of analysis? In the case of an air warfare destroyer, that is a piece of equipment with a finite value and a finite lifespan. A power network or a road network or a broadband network is enabling technology that is essentially a very different consideration. Would you use a different model to analyse the benefits of such a piece of infrastructure?

Mr Ergas—I would not agree with you in respect of air warfare destroyers.

Senator LUDLAM—There is no difference between a piece of defence equipment and an enabling network?

Mr Ergas—There are different types of defence equipment, but most types of defence equipment, when you analyse them carefully, are in fact enablers. They create options for deployment and operations. What you try to do when you do this kind of analysis is to look at how adding a piece of equipment alters the options you have. That is defence cost-benefit analysis 101. Clearly, the practical problems associated with that kind of analysis differ because of differences in the environment in which you are operating. Typically, for all of these goods that have infrastructural characteristics, such as power grids, rail networks or telecommunications networks, what you are dealing with is a demand that is derived from the demand to do other things, so you need to take that into account in your analysis. That is exactly what we do.

Senator LUDLAM—I just want to change tack briefly, if we still have time, Chair.

CHAIR—I would prefer to go to Senator Macdonald, Senator Ludlam.

Senator IAN MACDONALD—Thank you. Mr Ergas, in your recent cost-benefit analysis you were critical of some of the assumptions government has made. Could you summarise for us some of the major issues you have with the assumptions the government made in coming to the conclusion to go ahead with this NBN proposal?

Mr Ergas—I am not sure which assumptions I was concerned about. But what I would say is that it seems to me that before you undertake a project of this kind you have to look at other options that can either meet the need at lower cost to the community or provide greater net benefit to the community. In doing that, a useful starting point in the communications area, and in the telecommunications area in particular, is to ask yourself why we have not seen more investment in upgrading equipment in recent years.

There is a compelling case, in my view, that our telecommunications network needs improvement and that there are many investment opportunities that would be in the public interest to exploit. But many of those are, or should be, commercially viable investment opportunities. When we look internationally, we do not see—with a few exceptions—massive subsidies being provided to the deployment of broadband networks. In most jurisdictions the upgrading to broadband is occurring, albeit at different rates, but on the basis of private sector investment decisions which, amongst other things, have the benefit. But then it is private investors who choose to bear that risk as against that risk being borne by taxpayers. So it does seem to me important to ask yourself: why is it that we have not had that same pace of upgrading that our network would seem to merit? To my mind, an important set of issues goes to the extent to which investors can have confidence in the regulatory framework and in the degree to which the regulatory framework will protect prudent well-chosen investments. That issue, of course, has arisen in other contexts in Australia, particularly in the energy industries. In the energy industries we have moved to a system where we have much clearer rules in place that define the regulatory arrangements and ensure that, when investors invest, they can do so with confidence that prudent investments will be recouped. To my mind, it would have been preferable if, before embarking on the course of a government sponsored and initiated venture, we had looked at reforming the regulatory arrangements so that in those areas where the private sector can on a competitive basis invest in upgrading and in new networks it would do so. The failure to do that—

Senator LUNDY—Can I just draw your attention to the time. We are well over. I am obviously going to have to put my questions on notice, which I will, but I think it is probably time to wrap up.

CHAIR—Not so obviously. Senator Macdonald has one more question.

Senator IAN MACDONALD—Thank you, Mr Ergas. We have cut you off, but I think the committee gets the direction in which you are heading. I will not make any assumption as to why you were cut off.

Senator LUNDY—There is none other than, like you, I would have made arrangements for the lunch break because I have other business to attend to. It is just the fact that we are now well past the scheduled lunch break, for which I have arranged another meeting.

Senator IAN MACDONALD—Finally—I suspect you were heading to this, and I will not hold you to this—would investing in Aussie infrastructure bonds be a good, sound investment, to help pay for the NBN?

Mr Ergas—It really depends on whether or not they are guaranteed by the Commonwealth. If they are guaranteed by the Commonwealth then I suspect it would be a sound investment for

you. If they are not guaranteed by the Commonwealth, and their fate is tied up with the ultimate financial performance of the NBN, then I suspect you would be taking on quite substantial risks.

Senator IAN MACDONALD—Just coming back to the other one, if they are guaranteed by the government, they are going to be actually subsidised by the government.

Mr Ergas—Absolutely, indeed.

CHAIR—Senator Lundy, it is for you to put your questions as you see fit.

Senator LUNDY—I will place them on notice because I have another commitment. I have now kept someone waiting for some 20 minutes.

CHAIR—Senator Lundy, I did invite you to go earlier in the proceedings, and I noted your indication you wished to go at the end. Please do so.

Senator LUNDY—My questions are quite suitably placed on notice, Chair. I am more concerned about the time, that we have extended into the scheduled break.

CHAIR—Mr Ergas, thank you very much.

Proceedings suspended from 12.25 pm to 1.38 pm

GOONAN, Mr Anthony John, Chief Executive Officer, YLess4U Pty Ltd

CHAIR—Welcome, Mr Goonan. The evidence you are about to give is public and subject to parliamentary privilege. It is an offence for anyone to attempt to interfere with evidence that would otherwise be given by a witness and is potentially in contempt of the Senate, as it is for a witness to give misleading evidence to the committee. If at any stage you wish to provide your evidence in camera, you might request to do so and the committee will consider your request. Do you have any comments to make on the capacity in which you appear?

Mr Goonan—YLess4U is a national telecommunications company under the Telecommunications Act of Australia.

CHAIR—Would you like to make a brief opening statement for the committee, after which we will ask you questions?

Mr Goonan—Thank you for the invitation to attend today's committee hearing. YLess4U is a telecommunications carrier which commenced operations in 2005. Its name derives from the play of words: just because you live 20 kilometres away from Canberra central, why less for you? The answer is wireless for you! We install and maintain a telecommunications carrier grade fixed wireless access broadband service in regional, rural and remote areas, primarily in the ACT border areas of New South Wales. Our primary objective was to provide a broadband service to our community, as these areas had nothing but dial-up and were only 20 minutes from the national Parliament House.

We designed and built our own backhaul and wireless local loop infrastructure in some of the harshest geographic, topographic and climatic conditions of Australia. We took the step of commissioning backhaul radio bearer links in-house due to the prohibitive cost of obtaining high-speed interconnect bandwidth from the incumbent carriers. This has insulated us from the vagaries of market directions by the major carriers over the past four years. High-speed 300 megabit per second backhaul radio bearers provide our interconnectivity to the global internet and other telecommunications carriers, and these terminate directly in Canberra and the major carrier cross-connect facility.

YLess4U's objective from the start of operations in 2005 was to provide high-speed broadband to areas that were deemed beyond the commercial reach of the major telecommunication carrier incumbents. We have constructed some 30 sites across the region, with power supplied by either grid or solar facilities. The large number of sites was required to reach into isolated, populated rural valleys nestled between high mountains. Several of our major trunking and backhaul sites are located within 100 metres of major interstate microwave bearer sites.

While our customer base is relatively small, we serve a unique population demographic, in that amongst our customers are senior public servants, ministerial advisers, defence, scientific personnel, tertiary students and academics as well as traditional large-scale farming, rural residential, paraprofessional and trade personnel. Wherever we are able to assist our local community and residents, we do so. Some examples will put this into context. We provide high-

speed broadband services as a community service, free, to several bushfire brigades, community halls and state emergency services throughout our region. We have worked with international telecommunications specialists in providing demonstration high-definition medical operating services between rural Vietnam and Melbourne, Australia. This latter example was coordinated from a rural private property near Mount Fairy and required the use of international high-speed bearers between the two locations.

We provide a high-speed five megabit per second proof-of-concept bearer to the Molonglo Observatory Synthesis Telescope situated in a radio-quiet valley to the east of Bungendore. While MOST has been retrofitted as the prototype to assist in Australia's \$1 billion bid for the square kilometre array, it has suffered from a lack of broadband facilities to get the four to five terabytes of data collected per day to the global scientific community. Prior to 2007, magnetic tape was used to transport data to Sydney. In 2007 MOST installed two ADSL circuits of 512 kilobits per second each. The proof-of-concept link, which we have now installed and would like to retrofit to a higher speed service, will in early 2010 move to 45 megabits per second, full duplex, and be cross-connected directly to ARNet for the world's researchers. This will then enable the direct control of the MOST facility by international researchers.

We also equip the local medical teaching practice in Bungendore with two distinct high-speed broadband services—the first for the medical practice and the second for the outposted medical undergraduates from the Australian National University who are undergoing rural field work as part of their undergraduate studies.

Although we have not received any federal, state or local government support for infrastructure and no connection based incentive subsidies since March 2007, we have continued to provide services, with our network now covering over 6,000 square kilometres in south-eastern New South Wales. We have provided input by way of various submissions over four years to various federal and state government committees and, more recently, to the \$250 million black spots backhaul initiative. We support the initiative as a policy intent. However, we are disappointed at the focus on trenching in fibre as the primary method of fulfilling this policy objective.

High-speed backhaul wireless equipment is available with varying speeds up to 400 megabits per second, which is more than adequate for a subregion. It can be installed rapidly and at a fraction of the cost of deploying fibre for intra-regional conductivity. As an example, the YLess4U network is capable of supporting an end customer connection of greater than 12 megabits per second. However, the primary limiting factor in providing these speeds to customers today is the recurring cost of interconnecting to the Canberra regional cross-connect facility.

While we have made three applications for funding under the Australian Broadband Guarantee program initiative, we have been unsuccessful. In November 2008 we made the decision to diversify our business operations and have now developed a consultancy practice with YLess4U serving as a national model of what can be done in rural and remote areas. Several federal government, state government and local government authorities have undertaken field trips to view, experience and interact with our customers. Feedback has been very positive.

There is scope in Australia for a mix of technologies to be used: fibre, fixed wireless, nomadic wireless and satellite. However, their deployment and the incentives and subsidies offered should be planned and used widely to avoid duplication, misallocation and waste. Thank you.

Senator LUNDY—When you first set up YLess4U, you mentioned that one of the reasons was that people living so close to the national capital could not get broadband services. Could you outline the features of the physical infrastructure within Telstra's network that meant those residents were not able to get the broadband services, therefore creating the need for you to step into the market?

Mr Goonan—At the time, in 2005, there was no ADSL available on any rural telephone exchange outside of the ACT border, so the commuter belt of the ACT, which circumnavigates, I suppose, around Canberra, was limited to dial-up service. As a lot of pair-gain systems were in use, dial-up would be lucky to be greater than 20 kilobits per second. So, with no understanding of when the major incumbent would deploy ADSL—and this is ADSL rather than ADSL2+—we set up our operation to provide rural commuters with service.

Senator LUNDY—What happened? Did anyone else enter the market after you established your business?

Mr Goonan—The major incumbent seemed to deploy ADSL very quickly after we began operations.

Senator LUNDY—How long after you began operations did they roll out?

Mr Goonan—It was three or four years ago, but it was probably within months—probably less. We do not update our website very much because we found that it seemed to give notice that we were about to turn on. We use word of mouth.

Senator LUNDY—Was there any recourse available to you as a business operating in that region about that kind of behaviour?

Mr Goonan—No.

Senator LUNDY—Further to that, I know, because you have made representations to me, that you have had some concerns about your company's ability to access government programs. Can you outline for the committee some of your frustrations with respect to accessing the broadband guarantee program?

Mr Goonan—I am glad you said 'some' rather than 'all'. Perhaps it is worthwhile for me to take just a minute to explain the progression from HiBIS through to ABG. HiBIS—the Higher Bandwidth Incentive Scheme—commenced around 2004 or 2005. We were a provider under that program. Over a period of 18 months, the government at the time progressively changed the conditions upon which you could be a provider. So, over a period of 18 months, we signed contracts with the government every six months. This made it very difficult to forward plan. The program then changed its name to Broadband Connect and again progressive restrictions were brought in so that where a provider had supplied infrastructure, which we needed to do in order to provide wireless services, there was a restriction of 12 months placed on the ability to claim a

subsidy. That made it very difficult in our area because we had to build infrastructure in rural and remote areas, so we did not have the same density of population that exists where most of the HiBIS and Broadband Connect funds were being applied. The Broadband Connect program ran out of money with three days notice to the providers. That caused quite some concern to the national wireless industry and to the telecommunications industry in general.

Senator IAN MACDONALD—When was that?

Mr Goonan—March 2007. I could be wrong there, but I think that is correct.

Senator LUNDY—I remember the furore, Senator Macdonald. It was in early 2007 and there was quite some consternation and public comment about the need to top up the Broadband Connect program because of the oversubscription.

Senator IAN MACDONALD—It is a pity you did not do the same with the solar thing. Anyhow, carry on.

Mr Goonan—A replacement program called Australian Broadband Guarantee was brought in. Although we have applied, we have never been successful in that program.

Senator LUNDY—My understanding is that changes in the eligibility criteria for the type of company and in the requirements of the department that you had to satisfy were at the heart of the problem.

Mr Goonan—Yes.

Senator LUNDY—I also know that you contend against some of the analysis by the department and that contention sits at the heart of your ongoing complaint with the department. Maybe you could report back on the current status of that complaint.

Mr Goonan—We have heard nothing. We applied three times, the last time being in March 2009. We received a response from the department approximately four to six weeks later saying that we were unsuccessful.

Senator LUNDY—Have you had a debriefing from the department in relation to that lack of success?

Mr Goonan—We were invited to have a chat to them and my co-director did. We have had no further correspondence with the department since then. We do not intend to apply for the Australian Broadband Guarantee program again. We have moved on.

Senator LUNDY—My final question on that matter, which I think you have just answered, is: is there anything outstanding that you are awaiting from the department in relation to that matter?

Mr Goonan—No. We would prefer that the Australian Broadband Guarantee program be changed dramatically or ceased because it basically favours satellite.

Senator NASH—In which year did you start operations?

Mr Goonan—In 2005.

Senator NASH—Up until this point in time, how has your access to backhaul gone?

Mr Goonan—I am sorry; I do not understand the question.

Senator NASH—I notice that you talk about backhaul black spots in your submission. How do you see backhaul having worked and how does it relate to your company?

Mr Goonan—The current government announced a \$250 million backhaul black spots program, and to date there have been six projects that have been successful under that initiative. We support the initiative; what is of concern to us is that it seems to be predominantly fibre based. There are alternatives that could be applied quickly to provide high-speed backhaul interconnectivity within a region and outside of rural regions. I think the example of YLess4U, which I quoted, serves the point. The customer infrastructure that we have deployed over 6,000 square kilometres is capable of signalling and providing a sustained speed to the end customer of between seven and 14 megabits per second. The new-generation equipment, due first quarter 2010, will bring that to about 20 to 25 megabits per second.

Currently, we offer services in the range of 512 kilobits, 1 megabit, 1.5 megabits and specialised services up to five megabits per second. The main reason we cannot lift overnight the speeds to all of our customers is the interconnectivity costs—that is, where we cross-connect to the world. In our case it happens to be Canberra. At the rate of backhaul pricing in this country it is prohibitive to do so. We do not think that we are a special case here. This will affect most other regional—especially rural and remote—areas. While their end user connectivity could be much higher and achieve the government's objective of 12 megabits per second, the cost of backhaul is prohibitive.

Senator NASH—Why do you think that backhaul cost has been and is so high?

Mr Goonan—Traditionally, the interregion and interstate bearers, whether they be microwave or fibre, tend to follow the highways—and I am being very general when I say that. Between Sydney, Canberra and Melbourne and Albury and Melbourne there is a great deal of capacity that passes through those centres, but accessing that capacity is prohibitive in cost. In our case, we implemented all our own backhaul infrastructure to Canberra, in this case a regional centre. As to the high price of even connecting at major regional centres like Canberra, Albury or Sydney, it is because of either the cost going offshore or the traditional incumbent carrier's pricing regimes.

Senator NASH—Do you think the ACCC has enough teeth to deal with the pricing regime? Is it something that could be dealt with better through the regulations that currently exist?

Mr Goonan—I am not an expert on the ACCC or those matters, so I will not make a comment on that. In terms of whether it can be done better, the answer is yes. We did suggest both in our submission, which is on the department's website, and in previous submissions to Minister Conroy that relief of interconnectivity to other carriers and therefore the internet could

be achieved rapidly, by the government or whoever, by subsidising at that point of take-off, in our case, rather than necessarily deploying fibre to all towns et cetera. The reason for that is that it is relatively easy for YLess4U or another operator to provide very high speed connectivity from their network into that major regional point of presence, but it is a question of the cost when you cross-connect. Subsidising there would send a very strong signal to the marketplace.

Senator NASH—On the NBN itself—you are obviously very entrenched in all things telecommunications—what is your view about moving to a wholesale access infrastructure network?

Mr Goonan—Overall I have no objections to the initiative that has been put forward. I think that in my opening statement I am quite circumspect in terms of planning, getting it right and perhaps some early wins.

Senator NASH—Finally, you talk in your submission about scalability and the importance of that. Do you want to run through for the committee what you mean? I assume it is being able to ramp up the delivery through the different delivery mechanisms.

Mr Goonan—Yes. The developments in fixed wireless access radio technology are rapid. Even with the existing technology that we deployed—two or three years back now—we could provide an end customer connection of between seven and 14 megabits per second. The new generation equipment will lift that to 20 to 30 megabits per second. So the government's objective of achieving 12 megabits per second to the last 10 per cent, which is the 10 per cent of the population where we operate, is achievable. What concerns me is that it possibly will not be achievable via satellite. At this stage we see that that seems to be the tendency.

Senator NASH—So what you are saying is that, while it might be a 12-megabit capacity, with that scalability there is the ability to improve that over time if necessary. Is that what you are saying?

Mr Goonan—Yes, absolutely. I am talking about the end customer connection. The issue comes back to where you cross-connect to the internet; that is where the bottleneck is.

Senator IAN MACDONALD—You have obviously provided a very good service around Canberra. We were trying to get out to see some of your stuff on the ground, but it did not fit the committee's schedule. But I gather from what you are saying that it is not commercially viable. Please do not answer this if I am being too impertinent and personal.

Mr Goonan—No, that is all right. It is not commercially viable if you provision these networks in the conventional sense, in the manner that has been done before by the incumbent operators. Our provisioning and operational costs are orders of magnitude lower than those of the major incumbents. We provide services in our areas which are well above those of the major incumbents. We get a lot of surprise, both nationally and internationally, from equipment vendors and suppliers and people who visit various state and local government authorities at the sheer extent of what we have done, how we do it and the innovative practices we have used to get there. Is it viable in very low-density rural areas without some form of incentive? Probably not, but isn't that what the \$43 billion program is about?

Senator IAN MACDONALD—That is a very good point. My understanding—it is not an intricate understanding, I might say—is that generally previous and current governments have understood that telecommunications to remote places and small-population areas will have to be subsidised. That has always been my understanding of various government policies. What you do seems to be a classic example of a good service being provided but needing some government subsidy support. Why is it that you have been so unsuccessful with government programs? Have they got a fix on you or don't you fit in? Again, you may not want to answer this. I am sure there is no-one vindictive in the department or the government, but just in case there is you may not want to answer.

Mr Goonan—No, the departmental officers know me well enough. Why have we been so unsuccessful? I scratch my head—

Senator IAN MACDONALD—I am not asking this in a personal way; I am asking as part of the overall—

Mr Goonan—I think it is a very good question and I do not have a problem answering it; I am just thinking of the right words so I do not offend anyone. I scratch my head quite a lot as to why this could have developed. We took a business decision in November 2008 that we had had enough. We showed that we could do it. We showed that we could do it at orders of magnitude lower in some very inhospitable terrain with some very demanding customers. And we kept getting knocked back. When the HiBIS program first started, in my first interaction with the department I said, 'The program policy intent is correct, but the delivery is not correct in that you are focusing on connections rather than infrastructure.' So stupid us decided that we would go and do rural and remote, which was the policy intent and objective, while 95 per cent of the other providers under the HiBIS, Broadband Connect and ABG programs went for high-density suburban areas. Of the \$200 million to \$300 million or whatever it was, we would have liked to have got 0.0001 per cent of it to do what we were doing. We think that is possibly why the money ran out and why the program kept changing every six months and there were progressive restrictions. But unfortunately it was probably a case of the baby being thrown out with the bathwater in that the good providers who had sustained through these particular changes were being hammered as a direct result of what had gone on in the first one to two years of the program.

As to why we have been spectacularly unsuccessful in ABG application over the last 12 months, we just shake our heads. In the last rejection statement from the department, it actually said, 'There are no technical issues.' It was the first time that we had actually seen that. It seems to be to do with financial issues. I think in some ways it is disbelief that someone could actually do this, on the scale that we do it with the resources we do it with and the success that we have done it with. They do not think we are financially viable.

We are not going away. We have told that to the department. We have told that to the various ministers we have met. Out of 35 providers under HiBIS, Broadband Connect and ABG, there are not a lot left. We are still here.

Senator IAN MACDONALD—But it seems to me that you are providing the service, from what I understand of what you have said, which is really what we are desperately seeking. I and several members of this committee come from rural and regional Australia, and what you are

doing sounds to be just what is needed. Were you involved—very indirectly, obviously—in the OPEL proposal?

Mr Goonan—No. We did seek information from the department et cetera but we did not get any.

Senator IAN MACDONALD—But the OPEL proposal would have included a segment of the sort of things you are doing, wouldn't it?

Mr Goonan—Yes, I think that under the OPEL proposed arrangements when we checked the maps that were produced there would have been three locations within our service area. We have 30 locations.

Senator IAN MACDONALD—But the fibre to the premises to, I think—I forget what it is these days; it changes pretty regularly—90 per cent of Australia would perhaps fix up your current customers?

Mr Goonan—No, it would not.

Senator IAN MACDONALD—It would not?

Mr Goonan—No.

Senator IAN MACDONALD—So it is not proposed for there to be fibre to the premises at Bungendore or—

Mr Goonan—It would fix Bungendore and Braidwood, and that would be about it.

Senator IAN MACDONALD—But the thought of ever getting fibre to the premises to places like Doomadgee or Burketown in the gulf is just ludicrous. But that is where, as I understand it, the NBN will have to rely on your type of operation—is that right?

Mr Goonan—Yes.

Senator IAN MACDONALD—There are other suppliers, but the sort of thing—

Mr Goonan—I believe that, yes, it will require that—and I think Australia is a very applicable case for both fixed wireless access, which we do, plus nomadic access, which the major carriers do, via cellular, mobile, frequencies in the more dense areas.

Senator IAN MACDONALD—Again, just in laymen's terms, why is yours better than satellite?

Mr Goonan—I think I would like to rephrase that question to, 'Why is fixed wireless or wireless better than satellite, in general?'

Senator IAN MACDONALD—Yes.

Mr Goonan—The main difficulty with satellite is that the geostationary satellites are approximately 35,000 kilometres above the earth's surface. There is latency. Latency is the time it takes from when you press the button until you get the response. You tend to see it when you have TV journalists interviewing off-shore; they start to talk over each other. It is problematic for high quality VOIP.

Senator IAN MACDONALD—So, fixed wireless would fix all that. It is instantaneous, practically.

Mr Goonan—The latency is very low and speed capabilities are increasing as each new generation of equipment is brought out.

Senator IAN MACDONALD—I take it from what you said that you are in the consultancy business now, rather than directly—

Mr Goonan—We keep YLess4U operating. We will not let our customers down. In the decision we made in November 2008 we are not actively seeking new customers. We gain a number of customers from those fleeing satellite because they find it unworkable. They pay quite a heavy fee to come onto our network. In terms of consultancy, if it is alright with the committee I would like to introduce Robin Eckermann. We won a consultancy to develop a business case for high speed broadband in the subalpine areas of Victoria.

CHAIR—We will be hearing from Mr Eckermann later this afternoon.

Mr Goonan—He will be speaking on smart metres and grids.

Senator IAN MACDONALD—Finally, will the NBN proposal take advantage of your set up or will your sort of set up be able to be used by NBN Co. at the end of the line?

Mr Goonan—When we undertook the network design we purposely put a network design together that could take third-party carriage service providers—in other words, ISPs—onto the network. Yes, it could, but I am really not privy to what NBN is doing.

Senator IAN MACDONALD—Might you end up as a competitor for NBN in your area?

Mr Goonan—No, I do not think so. Certainly in terms of size, no!

Senator IAN MACDONALD—David and Goliath you reckon?

Mr Goonan—Yes.

Senator IAN MACDONALD—Don't give up though, will you?

Mr Goonan—We faced our decisions and we were nimble. I had worked in a telco industry for 25 years prior to starting YLess4U. We made our business decision in November last year and unfortunately for the people in the rural areas surrounding Canberra, we are not expanding further. We will keep upgrading our services because it is seen internationally as a good service.

Senator IAN MACDONALD—Don't forget that we have estimates committees in this place and if you ever have some questions you want the department to answer that you have never been able to get answered—

Mr Goonan—I am nervous enough sitting here today without those—

Senator IAN MACDONALD—No; we ask the questions. You just have to give them to us.

Senator NASH—Senator Macdonald is offering to ask them for you.

Senator IAN MACDONALD—I am offering to ask them for you if there are—

Mr Goonan—No.

CHAIR—Let Senator Lundy put you at ease by asking a couple of final questions.

Senator LUNDY—It is not really a question chair. I really just want to acknowledge the efforts of YLess4U over many years. You have improved the services for a lot of people who have been frustrated, desperate and angry. I think you have done a terrific job in quite difficult circumstances. So this is really just to acknowledge your efforts and those of your company, Mr Goonan, in providing services to people around the ACT.

Mr Goonan—Thank you.

CHAIR—Thank you very much, Mr Goonan for that, and then some.

[2.14 pm]

QUIGLEY, Mr Michael Patrick, Chairman and Chief Executive Officer, NBN Co. Ltd

CHAIR—Welcome, Mr Quigley. Thank you for attending today. The proceedings of the committee are public and any evidence provided by you is protected by parliamentary privilege. It is an offence for anybody to attempt to interfere with the evidence that you might otherwise give and is potentially in contempt of the Senate, as it would be for a witness to give false or misleading evidence to the committee. If at any stage you wish to provide your evidence in camera, then make the request of the committee and we will consider it. Do you wish to make a brief opening statement before we proceed to fire questions at you?

Mr Quigley—Indeed. Thank you for the opportunity to make an opening statement to the committee. I thought it might be useful to provide an overview of our objectives and focus, our business model and our current plans. NBN Co. was incorporated following the government's announcement in April this year that it would establish a company to invest up to \$43 billion to roll out and operate a national broadband network in Australia. The company was then prescribed as a government business enterprise, or GBE, in early August and has two shareholders, the Minister for Broadband and Communications and the Digital Economy, the Hon. Senator Conroy, and the Minister for Finance and Deregulation, the Hon. Mr Tanner. It has a six-member board with both government and private sector experience. Those folks on the board have experience, some of them in both areas. As a GBE, we are subject to the Commonwealth government's arrangements for such organisations and, as a company, to the corporation legislation. The company has just finalised its first set of financial statements covering our activities, which were rather limited, for the 2008-2009 financial year. I was appointed as CEO and interim chairman on 24 July and since then five other board members have been appointed. I have been working to assemble a team. I now have most of my direct reports in place and we have established some interim premises.

Our high-level objectives are, firstly, to provide broadband coverage across the nation offering speeds of 100 megabits per second to 90 per cent of the population and at least 12 megabits per second to the remaining 10 per cent. The second objective is to facilitate the development of a level competitive playing field for access seekers through an open access wholesale—and I stress wholesale—offer providing equivalence to all retail service providers. The third thing we are trying to do is to do those first two objectives in the most cost-effective manner possible. That is what the company is focused on—trying to make sure that we use as little funding as possible to carry out the first two. Fourthly, and importantly, is to ensure customer care for both the access seekers who are going to get onto the network and for end-users of the network particularly as those customers move onto the network, and that is very important. So I am asking the NBN staff and also our board to use those broad objectives as reference points for all the activities that we are undertaking.

I will go through each one of those in a little more detail. Our first objective, which is coverage, is the foundation for everything we do. We are currently undertaking a detailed assessment of how best to meet the coverage objectives. As you are all no doubt aware, the aim

is to provide 90 per cent of premises in Australia with fibre to the premises and the other 10 per cent with a combination of wireless and satellite technologies.

Our second objective, to produce a level competitive playing field, is guiding our high-level definition of our product offering. We are in the process of developing right now that product offering and it will, firstly, support differentiation innovation by service providers, providing them with an experience as close as we possibly can to owning their own network. That is our aim. We are trying to make sure that what we are providing looks as close as we can to what they would do if they built it themselves.

Secondly, we have an offering that has open access and equivalence, so it creates a level competitive playing field. It will, we hope, support investment by service providers. We are facilitating any-to-any connectivity and promoting maximum end-user choice as to both services and providers. We are trying to make sure we have the architecture for a network by which people can have a choice as to which service provider they use—and perhaps they can have multiple service providers—and as to which services they use from which of those providers. Obviously, we are trying to make sure we deliver appropriate network reliability resilience and security and allow, as I mentioned earlier, secure simultaneous delivery of multiple applications with predictable levels of quality. That is quite an engineering job.

As to our third objective, cost effectiveness, we will be delivering in a number of ways. First of all, we will be evaluating carefully where we participate in the network and technology stack, to ensure we do not invest in assets and activities that do not deliver significant benefits in terms of coverage or competition. Secondly, we will be designing our network and selecting technology to balance operating costs, or opex, and capital expenditure, or capex, and to manage risk. We are looking to incorporate the insights that we are getting from others—from partners—and also the experience from overseas. We are looking very carefully at what is happening around the world. We are driving efficiency through a procurement process that we hope will optimise as to cost and performance and will make sure that we create some competitive tension between suppliers as we purchase equipment. Finally, we are focusing on cost management throughout the organisation as we build it.

On customer care, that really comes in two parts. The first part is design. You have got to make sure you design the network with customers and end users in mind. Secondly, it is partly about culture so, in other words, when we build the company we have people thinking all the time about what is good for the access seeker and for the end customer. The work we are doing complements that of the lead advisers with whom we are working closely. The lead advisers are simultaneously conducting the implementation study for the government. At the same time as we are working on network issues they are doing the study. The study has many elements which will have an impact on our future. These include and are not limited to recommendations in respect of the industry structure, access model, business case and funding arrangements for NBN Co. as well as advising NBN Co. on the conduct of commercial negotiations.

We are a start-up and we have a lot to do. We expect in six months time to have largely completed the following tasks. First of all, there is building our organisation. We will engage with construction partners and the workforce as the network build ramps up. We will be designing a reference offer which we will be testing and refining with our potential customers and with the ACCC. We will be selecting technologies, being both the technology underpinning

the fibre-to-the-premise rollout and also the technology for the last 10 per cent. We will be defining a high-level network architecture, negotiating with potential partners and establishing an operational program management office. We would also expect to make good progress on negotiating an initial understanding with the ACCC. We have had some level of pricing architecture discussions with customers. We would expect to be underway with tender processes, obtaining a carrier licence and perhaps negotiating the necessary spectrum and satellite slots. Obviously, achieving access to satellite capacity may take a little longer. By that time I think we would also have commenced planning the rollout schedule and, if it is appropriate, the executing of acquisitions, the designing of the business support systems and operational support systems that are necessary to run such a network and also the designing of the internal processes of the company. In parallel we will be rolling out our initial Tasmanian pilot. Stage 1 of the pilot will provide almost 5,000 fibre-to-the-premise connections to three communities in Tasmania: Smithton, Scottsdale and Midway Point. We will also be building five back-haul links in those areas. In fact, a few weeks ago Aurora Energy commenced digging the trenches for the back-haul to Midway Point. It is anticipated that first connections to the network will be made available in the first half of next year.

Negotiations between NBN Tasmania and Aurora Energy on the state-wide rollout agreement are progressing, with parties working towards having the state-wide agreement finalised in October or November of this year. The Tasmanian pilot will help us refine our operational approach. It will probably assist us in working out and finetuning our procurement approach and perhaps it will give us some indications as to architectural design. Overall, I think it will provide us with some valuable learning and, even more importantly, deliver some long-term value to the communities in which the connections are made. I would like to stress that this is a very large and complex engineering project. It has got many moving parts. It is important that we take the time upfront to get it right, just as it is with all large and complex engineering projects. We still have a lot of work to do but I am confident that we are approaching the project in the right way. The NBN Co. board and its senior executive team are, frankly, excited and challenged by the opportunity to achieve a major improvement in Australian infrastructure. We expect it to deliver productivity benefits for years to come. Thank you for the opportunity to brief you on the priorities and on the progress to date. I would be happy to take questions.

CHAIR—Thank you, Mr Quigley, for that. I will kick off with some questions and I expect we will have a deluge of questions thereafter. You talked about establishing the internals of the company and your workforce. Separately from this you have talked about hundreds, thousands and tens of thousands of people. How many employees do you contemplate NBN Co. employing? If you cannot say so today when will you be able to say so?

Mr Quigley—We are still working through the model. The biggest factor as we work through the model is exactly how you do the build. That is where the large numbers of people will be employed. If you put aside the numbers of people to build it, I would expect that in those orders of magnitude—hundreds, thousands or tens of thousand—the company will probably look more like having in the order of magnitude of a thousand people if you take out the build. I think exactly how we do the build is still subject to some analysis which we are doing. There are various options there. Frankly, until we have done some more planning, which will probably take some months, it would be very difficult to give you an estimate of those numbers. I think the government's analysis has previously been that somewhere between 25,000 to 35,000 people

will be involved in this project overall. I have no reason to doubt that number at this point in time.

CHAIR—If you were to excise the build for now, so if you were to subtract from the 25,000 to 30,000 your 1,000, would that mean that the balance is largely of contractors, as opposed to employees?

Mr Quigley—No, I would not draw that conclusion at this point in time. It really depends on how a number of other factors play out.

CHAIR—My final question around the workforce is this. We have been speaking about other factors playing out. What if Telstra were to vend certain of its wholesale services and then if NBN Co. were to take Telstra's employees? The ACTU has made pretty clear its view that current Telstra terms and conditions should be folded into the NBN Co. sphere of operation. Would you do that?

Mr Quigley—Frankly, that is not an issue that I have given much thought to at this stage. We are really looking at the early ramp. As of today we probably have around 30 to 40 contractors in the company so we are still some way away from having to contemplate exactly how we would manage the much larger build. We certainly will be looking at those issues as we get down the track but we have not yet contemplated those issues.

CHAIR—Thank you, Mr Quigley. We will watch this space. I come to the second area of questioning, the Aussie infrastructure bonds. Will they be guaranteed by the government? Who will guarantee them?

Mr Quigley—I think the question of equity and debt is really an issue for Treasury. At this stage what we know is from the NBN Co. point of view. There have been equity injections and there will continue to be equity injections. As for just exactly how the government raises that equity and deals with it, to be honest I think that is an issue for Treasury. It is not one that the company has looked at at this point.

CHAIR—Do you agree that the options are essentially the government and/or NBN Co. itself?

Mr Quigley—We have not contemplated at this point NBN Co. raising debt, but that is something we certainly would not exclude in the future. As I said, it is early days to be looking at the financing issues.

CHAIR—Earlier today Mr Ergas suggested that if the bonds were to be underwritten by NBN Co. itself then ultimately the fate of those bonds and the underwriting thereof would rest on the success or not of NBN Co. His words were that its fate was tied up in the ultimate financial performance of the NBN. He said, in answer to questions from Senator Macdonald, that he suspected someone investing in those bonds would be taking on quite substantial risks. Would you agree with that?

Mr Quigley—I once again say it is too early to know. That all hinges around the business case for NBN Co. There has been a lot of analysis done, which I have seen, a lot of it quite variable. It

really depends on how the business case is built, which we are doing at the moment. However, there are people building fibre to the premises networks commercially today not just in Australia in various places but also in quite substantial numbers overseas. So I would not immediately jump to the conclusion that it is a risky business. There are commercial entities building such networks around the world today.

CHAIR—If the bonds were underwritten by the government, the risks of the success or otherwise of NBN Co. would in that scenario ultimately be borne by the taxpayer, wouldn't they?

Mr Quigley—I am not a Finance person or a Treasury person, so it is really not an area I would be comfortable commenting on.

Senator IAN MACDONALD—But are you intending to make a profit? Is that part of your memorandum and articles?

Mr Quigley—Yes. We operate under the guidelines of GBE, which say our job is to execute the objectives of the shareholders, in this case the government, in terms of commercial viability, but that can be over a long period of time. This is obviously a very big project and there is going to be some upfront investment. Clearly you are going to be using funds in the early years, and then as you look out for a longer period of time you would be looking to recoup some of those funds as you bring customers on board the network.

Senator IAN MACDONALD—So you intend to make an operating profit and give a return on the capital investment. That is part of the long-term goal.

Mr Quigley—Certainly that is part of a long-term goal, yes.

CHAIR—Minister Conroy seems to have made it pretty clear that there will be cross-subsidisation. I presume you are familiar with his comments reported that there will be one wholesale price averaged across the country so that effectively every household will be paying the same price for the same thing irrespective of where they are in the country. Is that a pricing model that has been locked in?

Mr Quigley—To clarify, this is a wholesale company. If he was talking about a wholesale price, that is not the retail price to the end user.

CHAIR—How will it work then? Will those buying wholesale be required to cross-subsidise in that area of the market, and then what will happen with the effect of that cross-subsidy? Will it be passed on or absorbed?

Mr Quigley—First of all, it is not up to us to establish what the retail price will be. We will offer a wholesale price to the retail service providers. Also, that wholesale price will need to be subject to regulation. As I think we know, there is going to be some regulation of NBN Co. Obviously the ACCC will give some guidance, and then it is really up to the retail service providers to decide what they are going to do in terms of pricing that. I cannot speak for them about what they choose to do. I would also like to make sure that you understand that what we

are trying to provide is equivalence. In other words, we will treat every retail service provider exactly the same way. What they then do to get to a retail price is up to them.

CHAIR—Equivalence of access. What about service and pricing? Not so.

Mr Quigley—Yes, equivalence of access, service and pricing. As far as we can, we will give absolute equivalence to retail service providers so we treat all retail service providers in the same way.

CHAIR—In your scenario does equivalence necessitate averaging? If it is necessitating averaging, there are of course going to be winners and losers.

Mr Quigley—Right now we are studying different pricing models. As you no doubt know, this is a very complex area. We have different technologies potentially used in different parts of the country and with different cost bases, so we have yet to work through the whole issue of pricing models. It is a very complex area, and I hesitate to draw any conclusions at this time.

Senator NASH—There are a couple of different scenarios for how this might potentially work. If Telstra were to choose not to structurally separate and not to vend in their assets, will NBN overbuild?

Mr Quigley—We will certainly build. Our objective set by the government is to build a broadband network, so we will build a broadband network.

Senator NASH—To 90 per cent of the population at 100 and to 10 per cent at 12?

Mr Quigley—That is the objective set by the government for the company.

Senator NASH—Is it correct that to be profitable a network would need 60 per cent of the customer base?

Mr Quigley—I think it is, once again, too early to say exactly what percentage of the customer base is needed. It depends on what the wholesale price is, what the technology base is and what costs come in. Until you go to tender for costs, until you really do the build models and see what efficiencies you can gain out of builds, it is very difficult to know for sure what the cost base is. We are working on those issues right now, so it is very difficult—I wish I could, but I cannot today—to give you a number or percentage of penetration that you would need. It also depends on what type of service and the pricing level. It is a complex model.

Senator NASH—Do you have a ballpark figure?

Mr Quigley—Not yet.

Senator NASH—If you do not have a ballpark figure, how do you know if it could be sustainable to run two networks side by side?

Mr Quigley—What I am giving you are the driving instructions for the company. We have a set of objectives, which we are going out to try to fulfil. That is the job. At this stage we are doing the planning of how you would most cost-effectively do that job.

Senator NASH—So, if it were not going to be profitable to overbuild if that became the only option, would the whole thing fall over?

Mr Quigley—I think it is way too early to draw that conclusion.

Senator NASH—I am just looking at all sorts of options. Obviously, there are some options that are more preferable than others for the NBN rollout. Geographically, where is the 10 per cent of the coverage that you referred to before? That will get the 12 megs.

Mr Quigley—It is quite interesting. It is scattered predominantly in regional and rural areas, obviously, but there are also places not that far outside metropolitan areas that still have difficulties with coverage—for example, with DSL. When you look, for example, at the satellite footprint that you might want to plan for, some of those areas are closer in to cities than you would otherwise expect, because there are spots that are difficult to provide high-speed broadband for.

Senator NASH—So you have a very clear picture of where that 10 per cent is.

Mr Quigley—We do not have a very clear picture; we have a rough picture at this point. Remember: the company has very few people in it at this point in time and we are building up expertise.

Senator NASH—I understand the difficulties to date. We have been trying to ascertain where. Could that rough idea be provided to the committee so we could also have a rough idea?

Mr Quigley—We certainly can provide what we can, but there is not a lot of hard data at this point in time. What I am giving you is what I have seen from various studies at different times. To be honest, they are not things we have done internally; they are things I have seen externally.

Senator Nash—That is okay. If you could provide that to the committee, it could be quite useful. What is the expectation for utilisation of the wholesale access network by retailers in that last 10 per cent?

Mr Quigley—For the last 10 per cent? It is still a wholesale network, so in the end I expect all of it to be used. Otherwise you have built a network without customers.

Senator NASH—That is precisely why I am asking the question. On what are you basing the idea that retailers will utilise that last 10 per cent?

Mr Quigley—We are basing it on offering services at competitive market prices. Regional and rural Australia is underserved at the moment. There have been, as we know, various government programs. We are attempting, obviously, with this initiative to try and improve the services to rural and regional Australia and getting to a 12 megabits per second service will be

quite a jump. I presume it will be attractive. If it is effectively market priced, I assume retail service providers will be keen to take up the wholesale offer.

Senator NASH—As you said rural and regional Australia is underserved, would it not be fair to expect that the rollout would begin in the regions?

Mr Quigley—We have not yet got to that point where we have looked at the detailed geographic build. There are various balancing issues there.

CHAIR—What are those?

Mr Quigley—There is obviously one of cost, there is one of when the technology is available. It may, for example, be possible to engineer a radio solution before a potential satellite solution so that would impact which areas you would go to first just because of availability of technology solutions. They are the kinds of factors you would need to take into account.

Senator NASH—So if it was all to begin today, hypothetically—and I should not do hypotheticals—how long would it take to get a satellite up and running to deliver the services you want at 12 megabits per second.

Mr Quigley—In my understanding of satellite services if you start from planning, you have somewhere around a 2½- to three-year lead time before it can provide services. That is if you are starting from a brand new satellite.

Senator NASH—Is there any way to increase the capability of the current satellites to deal with the shortfall until the new one is up and running in three years time?

Mr Quigley—That is certainly one of the options that the company is just beginning to explore now.

Senator NASH—Okay. It would be very sad to think that the more remote parts were three years down the track before they got any improvement and, I would say, probably unacceptable. With respect to the last 10 per cent and the wireless, what spectrum is available to be able to use wireless to the capacity you are going to need to for the last 10 per cent?

Mr Quigley—That is something we are looking at under an inventory of what spectrum is available. Clearly, for this type of technology if you are using a fixed wireless solution such as WiMAX, you would want to use a licensed spectrum. There are various bands of spectrum in ownership of various people, which is probably well known, so we are looking at just what the options are for a WiMAX solution, a fixed wireless solution, at this point. Once again we have not drawn any firm conclusions on what is the best spectrum to utilise and whether it is even accessible and available.

Senator NASH—Are there going to be any issues given that, obviously, mobile broadband will continue to increase? Are there going to be any issues then with the amount of spectrum that the mobile broadband is going to need at the same time that we are going to need that capacity for part of the 10 per cent for wireless?

Mr Quigley—My understanding is that operating in a fixed wireless spectrum probably distinct from mobile spectrum—

Senator NASH—Are they entirely separate?

Mr Quigley—I would not say that they are entirely separate. You can engineer them in various ways. You could certainly have some overlap but there is spectrum that is not designated for mobile that is potentially available for data or fixed wireless and that has been used in some parts of Australia.

Senator NASH—It is not just going to be today, we are going to need to be able to increase the capacity on an ongoing basis.

Mr Quigley—Yes.

Senator NASH—Will the technologies that you are going to use around wireless be scalable?

Mr Quigley—I am not sure what you mean by scalable.

Senator NASH—If you are looking at a target of say 12 megs, but down the track it needs to be lifted to 30, 40 or 50 will they be the types of technologies that will be able to do that?

Mr Quigley—That is certainly something that we will be looking at when we make evaluations of radiotechnologies that are available. Speeds and capacities available on radio systems depend a lot on radio planning and how big you make the cell sites in terms of the effective speed that you can deploy and carry. It depends on backhaul and other issues as well. As we evaluate radiotechnologies—as with all the technologies, also the fibre technologies—we will be looking at what are the future road maps and how this technology will advance.

Senator LUDLAM—Thanks very much for coming in. I will just quote you back a little piece of the minister's speech that I am interested to get your views on, which was:

The Government will make an initial investment in this company but intends to sell down its interest in the company within 5 years after the network is built and fully operational ...

What does 'built and fully operational' mean in the context of something like what you are building?

Mr Quigley—I believe what the minister means by 'built and fully operational' is that the customer is connected and it is working and you have built up a large part of the network. I think the timescale that was set for that was eight years after the project starts.

Senator LUDLAM—So when you have 90 per cent of the population to 100 meg and the other 10 per cent to 12. Is that going to be written into NBN Co somewhere or into legislation? I am just interested in where that threshold condition is going to be set.

Mr Quigley—I think that is really a question for the minister to answer, given he said the words. My understanding is that it will be five years after the build is done, which is eight years.

To be honest, I am really not at this point in time focusing on something that is going to be happening in 13 years.

Senator LUDLAM—It is still a bit of a preoccupation of mine whether this infrastructure will stay in public hands or not, but I appreciate what you have said there. What is the best-case scenario, as far as you are concerned, for the relationship between NBN Co and whatever becomes of Telstra wholesale either in structurally or functionally separated form?

Mr Quigley—Sorry?

Senator LUDLAM—What is the best case scenario for NBN Co? There is a choice before Telstra now. Do you have a preference as to which way they go?

Mr Quigley—No. That is really an issue for Telstra to decide. The legislation has been tabled and I understand they are considering their options. It is really a question for them, I think.

Senator LUDLAM—It seems to me a very different market. Whether you end up as the dominant or, indeed, the sole player in the wholesale market or whether you are in effect competing with Telstra wholesale, it is a very different kind of business, isn't it?

Mr Quigley—Yes, it would be. Those two scenarios would be quite different.

Senator LUDLAM—Is that not really playing into your planning or your thinking at this stage?

Mr Quigley—We are obviously considering various scenarios, but I do not think it is for me to try to second-guess what Telstra may or may not do.

Senator LUDLAM—I thought it was worth asking. We took some evidence earlier today from a group that has been quite active on advocacy about undergrounding the cabling infrastructure. I just wonder what thought you or your team have given to how much of the network is eventually going to be ducted and how much will be overhead.

Mr Quigley—No, we have not come to any conclusion about what the proportions should be. We are looking at all options as to how you could make these connections. Obviously existing telco ducts could be utility ducts. In some cases overhead cabling, such as has been done in Tasmania, seems to be the right answer. We are looking at all those different technologies. We are also looking at what is being done in other parts of the world. We are obviously looking at the cost of the maintenance issues and the security issues around them. We have not drawn any conclusion yet about what the proportion will be. I am not sure we will be able to draw a conclusion until we actually get underway and start looking at the engineering issues, area by area.

Senator LUDLAM—I would draw their submission to your attention, if you have not come across it already, because it does contain some interesting information. They are providing us with a bit more information about the longer term benefits of undergrounding the infrastructure rather than leaving it on power poles.

Mr Quigley—I will look at that.

Senator LUDLAM—The NBN is being presented as something that everybody is going to need and want and that effectively will be an essential service within a few years of it being built, similar to a utility. What are your views on whether the rate of return should more closely resemble a utility rate of return as opposed to a commercial rate of return?

Mr Quigley—My personal view would be that it is a large infrastructure project. Frankly, at this point in time, I think it is more the shareholders, with the lead advisers, who need to be looking at those decisions. Once again, it is not something that we have focused on inside the company. We are looking at getting the team up and running and addressing the engineering issues. Rate of return is simply not something we have looked at, but I understand it is being considered by the lead advisory group.

Senator LUDLAM—Lastly, I just want to confirm something you said earlier that. When we had Treasury in here first thing this morning they were saying that half of the government's spending on this project will come from the bond issues—the Aussie infrastructure bonds—and that the other half would be raised as debt by NBN Co. Before you sounded much more tentative and said that that would be something you would be thinking about down the track. But is it your understanding that you will be responsible for raising anything up to \$11 billion in debt?

Mr Quigley—We anticipate that at some point in time the company will raise debt.

Senator LUDLAM—Later.

Mr Quigley—Yes; not right now.

Senator LUDLAM—Not at the moment. I will leave it there and come back to this later.

Senator LUNDY—My questions have a consistent theme. I want to explore with you what thoughts NBN Co. has had at this initial stage about servicing the RIM affected areas.

Mr Quigley—Sorry, what?

Senator LUNDY—RIMs. They are a type of multiplexer pair gain system.

Mr Quigley—Oh, RIM. Okay.

Senator LUNDY—What happens, as I am sure you are aware, is that there is a significant constraint on the proportion of customers in that area that can get ADSL access. There are significant constraints on competitors' access to RIMs for the purposes of installing their DSLAMs. How it has manifested now in places like Gungahlin, here in Canberra, is that customers wanting ADSL services are put on waiting lists because there is a finite capacity to access an ADSL service. We know from previous evidence over many years of inquiry to Telstra that there are some 800,000 people living in areas around Australia that have RIMs. So my question to you is: have you contemplated this particular challenge and this particular demographic of people who have an additional broadband constraint by virtue of the technology design of the existing Telstra network?

Mr Quigley—We are certainly aware of the limitations that the remote integrated multiplex or any other type of pair gain system has on providing broadband. We have not yet done an inventory of where those pair gain systems are that limit broadband, but it is certainly one of the factors that we will be looking at as we start to do the build-out plan. Clearly, it makes some sense to try and tackle those areas where there are limitations in broadband facilities.

Senator LUNDY—It would seem to make good business sense as well, because that constraint exists.

Mr Quigley—Yes.

Senator LUNDY—My recollection is that, through one of the Senate inquiries—I think it was the state of the network inquiry—a Senate committee was able to access information from Telstra about the attributes of the different types of pair gain systems and what exchanges they were associated with. Are you able to access that kind of information from Telstra?

Mr Quigley—We have not inquired yet. I really cannot answer that because we have not asked the question. But certainly we will be seeking every avenue we can to obtain information about what are the facilities that are there. I know the government has data available within the department, which we have yet to access fully, not just on pair gain systems but on satellite and rural areas. There is a lot of information, frankly, to absorb at this point in time. We are early on in the process of doing so.

Senator LUNDY—I thought it might be useful to ask these questions nice and early in the process. I still get emails on a daily basis from people who are affected by the presence of pair gain systems in the network. Their question now is: ‘How will the NBN fix this?’ It is something that is on a lot of my constituents’ minds. Mr Quigley, I also have a question about the external territories. I am Chair of the Joint Standing Committee on the National Capital and External Territories, which is currently conducting an inquiry into the Indian Ocean territories. One of the terms of reference relates to telecommunications and digital services. Notwithstanding the fact that that inquiry is currently taking place, can I explore with you what consideration you have given to the specific challenges facing the island based communities. The two that I am full bottle on at the moment are Christmas Island and the Cocos (Keeling) Islands. What are your initial thoughts on servicing the needs of those islands in order to satisfy the government’s policy? I presume they are part of the 10 per cent, not the 90 per cent.

Mr Quigley—We have assumed, yes, that they are part of the 10 per cent, that we will not be running fibre to them from any capital city. We are very aware that the external territories need to be served. At first, without having done an in-depth analysis, it would appear that satellite solutions are obviously one viable option. Certainly in any satellite discussions we are beginning to have now, the external territories will be an important factor. When you are doing the beam analysis and talking about what you can get where, how the capacities might be deployed around Australia and how you would actually architect those beams, taking account of external territories is part of the job.

Senator LUNDY—Excellent to hear. Of course Cocos (Keeling) Islands are a significant distance from the mainland, hence the importance of foreshadowing it at this early stage so they can be taken into account—and Christmas Island, of course.

Mr Quigley—Without pre-empting a detailed analysis, my understanding is that it should be possible with a satellite solution to reach those islands.

Senator LUNDY—Excellent. While I am here I should also mention my constituents on Norfolk Island, on the other side of the continent. Thanks very much.

Senator BIRMINGHAM—Mr Quigley, thank you very much for your time and attendance today. Firstly, we have just clarified how big the Australian footprint is with Senator Lundy. Can I clarify the start date. When do you consider the eight-year clock will start ticking?

Mr Quigley—I believe now that we have the company on its feet, to some extent up and running, around this time would be a good point to start.

Senator BIRMINGHAM—Good. So it is not reliant on the conclusion of the implementation study, the start of other build aspects or things that might run out in the space of the next year or two?

Mr Quigley—No.

Senator BIRMINGHAM—With regard to spectrum questions, and Senator Nash pursued some, do you have any expectations of the government quarantining any aspect of spectrum for the NBN?

Mr Quigley—I am not aware of that at this point in time. I would not like to preclude it, but I simply do not know if they have considered doing that at this point.

Senator BIRMINGHAM—Would you expect that NBN Co., under appropriate regulatory practices and principles, would have to bid for access to spectrum like any other company?

Mr Quigley—Unless spectrum was made available, we would anticipate we would have to do so, or acquire spectrum if it was available somewhere else. Clearly you cannot provide a radio solution without having spectrum available, so we know we have the job of acquiring spectrum one way or another. We have not as of yet gone into the details of how we might do that.

Senator BIRMINGHAM—As a GBE, would you expect to have to operate, in a sense, on competitive neutrality type principles in accessing spectrum, or do you think the government can give you a leg up in that regard?

Mr Quigley—I really am not well enough aware of the GBE guidelines to be able to answer that question. I can take it on notice. It is something I probably should look at. I will get back to you.

Senator BIRMINGHAM—Sure. That is all good. You talked about the 90 per cent, 10 per cent and so on as being the core objectives of the NBN. Indeed, NBN mark 1 was marked by objectives as well—so we discovered over time—rather than commitments, and there is a point of difference. With regard to regional Australia and underserved areas such as those that Senator Nash, firstly, and Senator Lundy were talking about, is it an objective of NBN Co. to provide service to those regions first if possible?

Mr Quigley—There are many factors, I think, in that decision about where to deploy first. I certainly am getting a lot of requests from a lot of people all around Australia in various states suggesting places we should begin. It is an issue we are going to have to balance up very carefully. They are obviously issues around pair gain, there are rural remotes, there are underserved areas—Tasmania, for example, has a much lower portion of broadband subscribers. So there are a lot of factors. We simply have not tried to put that all together. I would expect, also, the shareholders to make known to the company what they believe would be the priority for us to attack first. There are also some straight technology issues, and perhaps areas where it may be wise to deploy first because we may learn something that may be valuable for the volume rollout.

Senator BIRMINGHAM—So the shareholders, being the finance minister and the communications minister, have not at this stage made their views known to you that they wish to see those disadvantaged or underserved areas, be they regional and remote or those with pair gain systems, served first rather than the major cities, where comparable services are in some instances already available.

Mr Quigley—We have not had any specific instructions from the shareholders at this point on the details of the rollout.

Senator BIRMINGHAM—How much equity is there in the NBN Co. at present?

Mr Quigley—Sixty million and ten dollars.

Senator BIRMINGHAM—That equity is, of course, all government equity.

Mr Quigley—Yes. Ten dollars was injected to start the company. Since then there have been two injections, one of \$10 million and one of \$50 million.

Senator BIRMINGHAM—And the structure is that they are each based on \$1 shares.

Mr Quigley—I believe so.

Senator BIRMINGHAM—At present the government is the one shareholder, so it does not matter too much. How soon do you expect a further injection will be required?

Mr Quigley—There is a plan in the budget papers of potential equity injections over periods of time. When we need more money for working capital of the company we write an information memorandum to the government and request an injection. We are not at the point where we need an injection right now, so we will look at that as we need it.

Senator BIRMINGHAM—Am I right to assume that the structure is such, with the Tasmanian trial in place, that equity flows into the NBN Co. and that you then provide what funds from the Commonwealth are necessary to support NBN Tasmania?

Mr Quigley—NBN Tasmania is a subsidiary of NBN Co., so the funding that it requires to do the job of building out the 5,000-premise trial in the first instance will come from the Commonwealth via NBN Co.

Senator BIRMINGHAM—What injections of equity have been provided by NBN Co. to NBN Tasmania thus far?

Mr Quigley—There has been an injection of half a million dollars. Clearly over the next months we are going to need to inject more equity as we start to build out.

Senator BIRMINGHAM—At present that funding is for salaries, general operational expenses and those types of things.

Mr Quigley—Precisely.

Senator BIRMINGHAM—In terms of actually funding the first 5,000-home build, that money is yet to flow.

Mr Quigley—That is correct.

Senator BIRMINGHAM—Do you expect from the NBN Co. perspective that you will need an additional injection to fund that 5,000-home build, or would that be within the scope of your current finances?

Mr Quigley—It depends on the rate at which funds are used within NBN Co. and the rate at which they are used in NBN Tasmania. I think we will get a fair way along the path of funding the Tasmanian 5,000-home rollout with the funds we have available, but we are just now assembling the systems to allow us to do those forward cash flow projections.

Senator BIRMINGHAM—Are you able to put a figure on the 5,000-home rollout as yet in terms of the cost estimate, or is that still subject to commercial sensitivities?

Mr Quigley—We will be going out and getting some equipment, so I would prefer at this point to keep that commercially in confidence. But at an appropriate time we certainly will be able to make that information available.

Senator BIRMINGHAM—But you think at present that you can do that build within the \$60 million or close to it.

Mr Quigley—That will depend on the speed with which we ramp up inside NBN Co. We are asked that in a lot of questions at the moment—a lot of people are very keen for us to get on and start doing things. So we are ramping up as fast as we can, but there is of course a limit to how quickly you can grow a company.

Senator BIRMINGHAM—Is NBN Co. funding the implementation study out of its own equity?

Mr Quigley—No.

Senator BIRMINGHAM—So that is a departmental cost?

Mr Quigley—The implementation study is a departmental issue. The lead advisory team do not work for NBN Co.

Senator BIRMINGHAM—That is good. I see your advisers are chuckling and I suspect they are chuckling at the fact that \$60 million probably would not go very far on the implementation study if you were having to fund the partners there. With regard to the acquisition of assets, how widely have you had discussions with parties from whom you might acquire assets?

Mr Quigley—We have had a range of discussions and we have done some preliminary analysis of some potential assets. Like in all analysis, you can come to certain conclusions about what may make sense or not. We are still in the middle of doing some analysis. I cannot talk about those in any detail for the obvious commercial reasons, but it is certainly something that we are looking at. We are looking at potential asset acquisitions. In some cases that will give the company a base from which to grow. So we are looking at such possibilities.

Senator BIRMINGHAM—Would you say that you have gotten to the point of negotiations in any instance, or are you still simply doing your own assessments and looking at options?

Mr Quigley—I would not call them negotiations. We have certainly had some discussions, but I would not call them negotiations at this point. They are mostly assessments.

Senator BIRMINGHAM—So you have not yet discussed the price of any assets with companies?

Mr Quigley—Sometimes you can get a feel for what a company may value their asset at. You may not necessarily agree with it, but you can at least get a feel for that. But I would not call that a negotiation. It is more a positioning.

Senator BIRMINGHAM—Are there any circumstances under which you imagine NBN Co. would purchase assets prior to the completion of the implementation study?

Mr Quigley—Yes. I would not preclude the possibility. We work with the implementation study team—the lead advisers—which we are doing very closely. Information is flowing back and forth and we are considering things jointly, which makes good sense. If you are looking at architectures and pricing structures and the like, it makes good sense to be doing that progressively and not in one big hit at the end. So I would not preclude that as a possibility.

Senator BIRMINGHAM—Isn't it a little pre-emptive to possibly invest in purchasing assets prior to the implementation study being completed?

Mr Quigley—We would not be acquiring assets unless we were fairly sure that it made good business sense. I have in my past life acquired quite a number of technology assets and I am going through the same process with anything that we look at now—that is, a very careful analysis of what the value of that asset is and what it brings to the company. We certainly will not be rushing into any asset acquisition. It would only happen after some very careful consideration.

Senator MARK BISHOP—I just have one quick issue, Mr Quigley. You made reference in your opening comments to being an open access wholesale provider and then we had a brief discussion about some factors relating to equalisation. In terms of the pricing that you offer to retail purchasers, I presume that you do not mean you are going to be mandated to provide uniform pricing?

Mr Quigley—I draw a distinction between equivalence and uniformity. We have made no assumptions on that. We try to make sure that any pricing structures we put together are as close as we possibly can come to pure equivalence—in other words, we treat all service providers equivalently.

Senator MARK BISHOP—So that necessarily means that if retailers purchase a different product, or a different speed, or a different volume, that can be reflected in the price that you negotiate?

Mr Quigley—Yes, indeed. If you are talking about, for example, a 100 megabit per second pipe available and a retail service provider only wanted to buy 20 megabits per second of that capacity then there would be a price on that. If somebody wanted to buy 40 megabits then there would be a different price. It is likewise on the quality of service that they provide. In the network we are architecting, you can in fact provide not only different speeds but different qualities of service because different types of services require different characteristics. We hope to have the capability to differentiate that and then provide different prices and bill them accordingly.

Senator MARK BISHOP—Understood.

Senator IAN MACDONALD—Thank you for coming along. You are the chairman of the board and the chief executive officer?

Mr Quigley—That is correct.

Senator IAN MACDONALD—And you are an engineer?

Mr Quigley—I am.

Senator IAN MACDONALD—I take it from what you just said that you have had a bit of corporate experience in the past.

Mr Quigley—Yes. I was with a telco vendor company for some 36 years, working both here in Australia and overseas. My last position was as president and chief operating officer of such a company.

Senator IAN MACDONALD—You are just the man to answer a question I can never work out in the broad. I appreciate that you are a wholesaler, but retailers will have to work through you, and between the retailers and yourselves you will have to make a profit. You indicated before that it was your intention to run at an operating profit. Whether you get a return on your \$43 billion is another question.

Most of the customers that you hope will be served by your operations will be in Brisbane, Sydney, Melbourne, Canberra and perhaps Adelaide. They are already pretty well serviced by Telstra, Optus and others. They do it and make a return. Let's take Telstra, who you would call, in the new regime, both a wholesaler and a retailer. They have various ranges and packages, but charging customers \$100 per month seems to be standard across the board. If you do the figures on your capital investment, it just does not stack up that you could possibly, as a wholesaler, deliver a service to the number of customers there are in Australia at anywhere near the price that Telstra is currently doing it for. Is that right, or am I wrong in my simplistic look at big business and retailing and wholesaling?

Mr Quigley—I think it is absolutely correct that in the model where you have a wholesaler and a retailer both of them will look at a share of the revenue that comes from an end customer. If you think about that, an entity that is supplying an end customer with a service is charging a certain amount. It has to do the wholesale functions regardless. Where you draw the line is a question which you can debate, but nevertheless a vertically integrated telco is doing both functions: retail and wholesale. The fact that you then divide it and you have a wholesaler and a retailer should not make much difference in the end to the overall proposition. The facilities still have to be built, marketing still has to be done—

Senator IAN MACDONALD—But the facilities are still there for Telstra. They do not have to build anything. You are going to spend \$43 billion or \$28 billion—nobody really seems to know. Even in Telstra's original proposal they were going to spend \$15 billion. You are talking about more than that and you are going to be, as far as we know, competing with Telstra in many of these areas. Even if you are not, how can you possibly provide a wholesale service that matches what the existing providers are doing?

Mr Quigley—If you look around the world, you will see commercial entities are making such investments now on the basis of a wholesale model, and vertically integrated companies are making such investments. There are deployments going on in the US, in Europe—

Senator IAN MACDONALD—In competition with others?

Mr Quigley—In competition with others.

Senator IAN MACDONALD—Okay. And they are dealing with markets a bit bigger than little old Australia, unfortunately.

Mr Quigley—In some cases, not. It is a question of scale again. It is quite true that we have an unusual situation in Australia with our population densities in a very big area, so it makes the question of serving the rural and outback communities particularly tough. It is an expensive proposition; I think everybody understands that. But, on the focus of your question, even in urban areas, where the large population densities are, the types of situations are not very different from those you see in other parts of the world.

Senator IAN MACDONALD—But my point, and I cannot be more specific on this, is that Telstra is providing that service now for \$100 a month with no new capital investment, but you are going to invest \$43 billion—retail and wholesale, I accept—and simple, back of the envelope

mathematics show that you will have to be charging two or three times what Telstra is charging now just to provide a wholesale service.

Mr Quigley—Frankly, it is too early to come to that conclusion. I know there have been some studies done. I do not necessarily agree that those conclusions are the correct ones.

Senator IAN MACDONALD—Okay, tell us why. That is my question. Tell us why you do not agree with that fairly simple proposition that seems logical.

Mr Quigley—You start from an assumed wholesale average price across various segments of the country. You then look at the total cost build-up. You look at your opex, you look at your capex, and if you finance the whole thing through debt you look at the interest payment. You have to build up a business case. You have to build what the income statement would look like for that. Frankly, I think until we go through that process we will not know what the answer to the question that you have posed is. We are going through that process, but I am at this point unwilling to say it is a forgone conclusion that it is impossible to run a viable business, because if you look overseas it is being done.

Senator IAN MACDONALD—It is not a forgone conclusion, you are saying? That means there is some doubt in your mind. I would have thought you would have said, as CEO and chairman of the board, ‘This is a forgone conclusion—we’re going to be in there to make a profit,’ as you said you wanted to do. But now you are saying it is not a forgone conclusion.

Mr Quigley—No, I am not. It is certainly not a forgone conclusion that the enterprise cannot possibly be profitable at any point in time. There are decisions that are going to need to be made along the way on various options. We need to explore those options, make the decisions and look at the outcomes. As I have said—

Senator IAN MACDONALD—But doesn’t it defy logic? Telstra are already there and they make a profit—some say it is excessive; the shareholders do not think it is excessive—but you are going to make a profit? They are already established, they have got customers, they have got a wholesale set-up or a trunk set-up and they have got a retail set-up, but you are going to come in and compete with them, at least in the wholesale part of it, and do it at a price that is still better than Telstra’s wholesale plus retail price?

Mr Quigley—There is, I guess, an assumption there that we will be competing with Telstra. I will be working to try and persuade Telstra that it makes better sense for them to use the network that we are about to build. And, if you think about it, the copper network needs constant maintenance on it. At some point in time the copper runs out of capacity and it has got pair gain systems on it, which means you cannot get services everywhere.

Senator IAN MACDONALD—Yes, sure.

Mr Quigley—It has certain limitations. So at some point—

Senator IAN MACDONALD—But Telstra are not totally copper, are they?

Mr Quigley—No, they have partly hybrid fibre-coax, which is also an older plant now. Telco companies are constantly upgrading their facilities and, if you look to other places in the world, that is why we are seeing an inexorable move from fixed line networks, from copper, to fibre.

Senator IAN MACDONALD—That is what Telstra and Optus were doing.

Mr Quigley—Yes, they were doing the same. So if I were to accept your premise that says you could never make this viable, then it would say we would stay on copper forever. The rest of the world is moving to fibre.

Senator IAN MACDONALD—This is not a venue for a debate and I am asking you questions, not debating with you. As you know, Telstra and Optus were both upgrading their existing networks, using their big capital city profit base to do it, and governments were effectively subsidising the bush aspect of it. But it just defies logic that a new player can come into the scene with huge capital outlays and still expect to get customers to sign up with it as opposed to signing up with an existing one where they know the price now, and if you do the back of the envelope calculation you could not possibly do it on your capital costs.

Mr Quigley—With respect, Senator—

Senator IAN MACDONALD—You are disagreeing with me? Okay.

Mr Quigley—I disagree that it is impossible to do it, because I am seeing entities around the world doing precisely that.

Senator IAN MACDONALD—Can you tell me, off the top of your head, some of the entities where this is happening?

Mr Quigley—Yes. One of the big ones is Verizon in the US, for example. They have been widely deploying fibre. It is being done in France and a lot of other European countries. In the Netherlands KPN has been doing it. France Telecom has been putting fibre out. A lot of little companies around Europe are deploying fibre.

Senator IAN MACDONALD—I can give you two examples in Australia that are deploying fibre, but I mean deploying it in competition with an existing fibre operator.

Mr Quigley—Yes.

Senator IAN MACDONALD—In a small market like Australia?

Mr Quigley—In Portugal, for example, Portugal Telecom is deploying fibre where there are a number of other competing infrastructures. There is cable infrastructure and there is copper infrastructure.

Senator IAN MACDONALD—What is Portugal's population? About five million, isn't it?

Mr Quigley—I think it is around five or six million, yes.

Senator IAN MACDONALD—Okay. That might be a good one to have a look at. Thanks very much, Mr Quigley. We have taken you long over your time.

CHAIR—We have. I have a question to smooth your final exit. To the extent that there may be cross-subsidy, will NBN be offering its customers, be they city wholesale purchasers or rural wholesale purchasers, the same price?

Mr Quigley—Once again, that is a question that I will not take just at the moment because we have not determined that yet. The whole question around pricing models is very complex. We are still studying that, discussing it with the lead advisory group and looking at what is going on in other places in the world. The whole issue of pricing in this new wholesale model is quite complex.

CHAIR—Yes, you have said that. But hasn't the minister effectively promised that NBN will provide wholesale to its customers at the same price irrespective of where they are in Australia?

Mr Quigley—I will have to look at the exact wording of what the minister said. From recollection, I think he said that it was an aim or objective.

CHAIR—He has been quite clear in saying it. Let me find the quote. He used the example of an ATM in Tamworth as opposed to one in Sydney and said words to the effect that if an ATM can be used in Tamworth for the same price as in Sydney then the same can apply to NBN Co. He suggested that NBN pricing would be cross-subsidised, with 'one wholesale price averaged across the country'. He went on to say that the aim was to have 'the same wholesale price for every household for the same speed across satellite, wireless and fibre-to-the-node'. So surely, if you apply that to what you said earlier, that must mean that NBN Co is going to have to provide your wholesale customers with cross-subsidy to enable that to be delivered.

Mr Quigley—At this point I have not had any instructions from the shareholder on what the pricing policy should be. We will not be setting pricing policies in the company on the basis of quotes; we will be having discussions with the shareholders around those sorts of issues, as you would expect us to do. These are very important decisions.

Senator BIRMINGHAM—If you have to cross-subsidise and if Telstra does not roll in its network and in fact is building fibre in the big cities where there is the high market share and the high profitability, won't that leave you with a bit of a lemon in those big cities where you are trying to cross-subsidise and therefore selling, presumably, at a higher wholesale price than somebody who has only had to build their fibre in the profitable parts?

Mr Quigley—This is exactly the issue—the balancing act—that we need to address. If we are going to serve those rural and remote communities that are commercially not so attractive to serve, which I believe is our objective, then we have to balance that. That is why I say it is a very complex picture at the moment. On the side of NBN Co, an advantage we have is one of scale. We have yet to work all that through before we can determine what the right approach to take is, and we have yet to bring the models—the costs and the potential options—back to the shareholders so that a decision can be made on those issues. But, as I said, they are very complex and a lot of them relate to those very tricky issues.

Senator BIRMINGHAM—It sounds like you might need to provide a bit of advice to the shareholders rather than waiting for advice from them.

CHAIR—I appreciate that you are suggesting that you are not necessarily familiar with what the minister has said. Can I ask you to take on notice the question about whether NBN Co. can deliver on the minister's promise and, if so, what processes you would put in place and what actions you would take in order to deliver on his promise to see one wholesale price averaged across the country and his promise that the same wholesale price will be afforded for every household for the same speed across satellite, wireless and fibre to the node?

Mr Quigley—Certainly. I will take that on notice.

CHAIR—Thank you.

Senator IAN MACDONALD—Can you also take on notice—unless you can answer it now—whether the Aussie infrastructure bonds are intended to be issued by the company or by the government?

Mr Quigley—By the government.

CHAIR—Thank you very much, Mr Quigley. You have been very generous, tolerant and informative.

Mr Quigley—Thank you.

[3.26 pm]

ECKERMANN, Mr Christopher Robin, Private capacity

CHAIR—Welcome. As you are aware, the proceedings of the committee are public. It is potentially unlawful for a person to attempt to interfere with evidence that a witness may give. Your evidence is protected by parliamentary privilege. If at any stage you wish to give evidence in camera, please say so and we will consider your request. Would you care to make a brief opening statement? We have your submission, of course.

Mr Eckermann—Thanks, Madam Chair and senators. I appreciate the opportunity to talk to you about the interplay between the NBN and the smart grid modernisation of Australia's electricity infrastructure. In my view, the NBN and the smart grids will do much to strengthen the infrastructure on which Australia's future social, economic and environmental wellbeing rest. In this context, I welcome the initiatives that the government has taken in both areas over the past year.

It is something of a coincidence that Alexander Graham Bell and Thomas Edison were both born in 1847 and each is credited with a landmark contribution in their respective fields—in Bell's case the telephone and in Edison's case the commercial light bulb. It has been said that, if Alexander Graham Bell came back today, he would not recognise our modern telecommunications infrastructure, with its optical fibre, digital transmission and fancy electronics. In contrast, if Edison came back today he would be largely at home with our electricity networks, because they really have not changed much in 130 years.

The inbuilt intelligence in a communications network allows the flows of information to be constantly monitored and re-routed when links fail or suffer heavy congestion. That sort of remedial action happens in milliseconds, in many cases without the user knowing there has ever been a problem. If you contrast that with the situation in our electricity grids, beyond a certain point in the network the utilities are blind as to the flows of electricity. Networks are commonly operating inefficiently, like a car that is poorly tuned. When something breaks, the utilities usually learn about it first when the customers start ringing and complaining they have lost power. At that point, they cannot ascertain the exact location, nature or extent of the fault. When they send out a repair crew, they often have to look blindly in the dark to try and locate it. You also have the life of equipment shortened when it is operated outside its designed tolerances.

So in an era where climate change is rapidly becoming one of the hottest items on the global agenda, and the electricity industry is one of the largest contributors to greenhouse gas emissions, this sort of inefficiency is not sustainable. The introduction of smart grid technology holds the key to modernising the electricity industry and providing a framework for next-generation energy management. The benefits are economic as well as environmental.

A parallel that I have found a lot of people relate to is the progress that has been made in the automotive industry in recent years. If you look at a modern vehicle and compare it with its 20-year-old predecessor then you will see that the modern one is typically faster, more powerful and about 25 per cent more fuel efficient. Much of that is due to smart engine technology—little

sensors that constantly monitor all of the subsystems in the vehicle and communicate their status to little processors that analyse the operating conditions and make the necessary moment by moment finetuning to achieve optimum performance.

Smart grid technology enables the same sort of modernisation and optimisation in the grid. It is also an absolutely essential foundation for supporting the widespread introduction of renewable energy and distributed generation storage, smart appliances and plug-in vehicles and the like. So right now the electricity industry sits on the threshold of a radical transformation, comparable I believe in significance to the arrival of broadband to the telecommunications industry about 15 years ago. The enabler for this transformation is the infusion of information and communications technology throughout the grid, from generation right through to consumption; and it is the need for pervasive real-time, grid-wide communications that underpins the possibility of synergies between smart grids and the National Broadband Network.

As the chair mentioned, I did prepare a short paper on the subject. I understand that you have had an opportunity to read that so perhaps I will just finish this opening statement by summarising the three observations I made in that paper. Firstly, I think there is real potential for the NBN to be used to satisfy some of the communication needs that smart grids will bring. Secondly, there are a lot of complex issues and potential obstacles that need to be dealt with. It is going to take some solid engagement between the NBN company and the utilities to work out just what potential can be achieved in practice. With that, I invite any questions and discussion.

Senator IAN MACDONALD—I appreciate that you are appearing in a private capacity but I understand that you are a director of Smart Grid Australia. Can you just tell us a bit about that organisation?

Mr Eckermann—Yes, it was formed about 12 months ago to promote thinking about smart grids in Australia. It has a very broad composition of membership. About half of the distribution utilities are represented and there are also a lot of the leading commercial companies providing smart grid technology—and also a growing representation of the research sector through CSIRO and other bodies. So it has a very singular focus on how as a country we move forward in modernising our electricity grids.

Senator IAN MACDONALD—You used the analogy of a motor vehicle with little processors. Are you saying that you can regulate your electricity usage or benefits by sending messages to the power source or the distribution source and in that way revolutionise the way we currently use electricity? Is that what that was all about?

Mr Eckermann—Yes, that is right. It takes multiple forms and one of the foundations is to introduce better visibility into what is actually happening on the network itself. So one of the key measures in implementing a smart grid is to put sensors onto transformers and monitor the flow of electricity at that point. That allows you to do all sorts of things—for example, utilities will often inject more electricity at the head end of their network to be confident that someone at the end of the line is getting 240 volts. If you can see the flows all the way through the network then you can potentially hold back a little energy and still deliver quality at the end of the line.

Senator IAN MACDONALD—I was at the Gladstone powerhouse recently having a look around and I think that is what they were showing me—that they can monitor when there is a

surge of usage in Brisbane and immediately tip in another wagonload of coal to fire up the boiler so that they can meet it. It happens almost instantly. If they have some wind generation in the system and the wind stops then immediately they get computer messages saying, 'Tip in more coal.' Is that what you are talking about?

Mr Eckermann—That is very much part of that smart grids scene. I think if we look a little further out into the future then we can see many more innovative applications than that. I can use the example of a plug-in electric vehicle. If you drove that vehicle here to parliament today then it will probably sit in the car park for many hours and there is great latitude as to when it draws energy to recharge. It goes even further than that—if the grid is going through some kind of crisis in demand then the grid could draw energy back out of that vehicle to improve its situation a little. But it would all be subject to rules that you would have to set. For example, you might say, 'You can play with my energy in my vehicle but don't suck anything out of it unless you are paying me \$1 per kilowatt and make sure you leave me'—

Senator IAN MACDONALD—And, 'Don't do it at 5.30 pm when I want to leave.'

Mr Eckermann—That is right: 'Leave me enough to get home.' The same will be true, I think, of smart appliances. If you look at the progress of technology, Moore's law has now held for something like 44 years. Silicon densities have doubled and processing power has more or less doubled every 18 months to two years. In an era where pressures on the climate are so extreme, to me it is almost inconceivable that in the coming years we will not see intelligence going into washing machines and fridges—all to finetune energy consumption. Those appliances will often want to know the state of the grid, where they have discretion as to whether they start drawing energy or not.

Senator IAN MACDONALD—What has this got to do with the NBN? Doesn't that already happen in various parts of Australia? I gave the example of Gladstone.

Mr Eckermann—It happens in the core of energy networks, but energy networks typically transmit at very high voltages—132 kilovolts or similar. That is broken down in locations called zone substations to typically 11 or 22 kilovolts. They are the feeder routes that then run out into the user's territory, and along those routes there are further transformers that break it down to 240 volts. So utilities generally have good visibility down to the zone substations and beyond that they are largely blind. So communications become important if you are trying to put sensors out on transformers, and ultimately on meters and right down to vehicles and appliances.

Senator LUNDY—It is good to have you back, Mr Eckermann. I would like to explore your thoughts on the potential of the National Broadband Network to extract environmental efficiencies. I know you have an interest in the area of green ICT and that does have a relationship with things like smart grids. I thought it would be a useful area for this committee to hear more about.

Mr Eckermann—Smart grids are pretty new on the scene. There is a lot of modelling work and there is a growing body of real-world results coming from some of the pilots around the world in places like Boulder in Colorado. There are many areas in which the environmental benefits can be achieved. The easiest and quickest ones are those that come with monitoring transformers, because they are the sorts of things that allow you to conserve voltage rather than

plugging in an excess voltage. They are the sort of things that allow your companies to operate more efficiently. There is a view that they are worth an immediate three to five per cent reduction in energy consumption, with the associated saving in greenhouse gases. In the longer term, I believe the bigger savings will come from the use of renewable energies and smart grids are just an essential foundation for supporting that. As Senator Macdonald said, if a cloud bank rolls over a solar city then you have a sudden drop in energy, and you need to be able to see it coming and deal with it.

An inefficient way of dealing with it is to build totally redundant energy generation, but in that case you will have duplicated your capacity just to be on standby for when the cloud rolls over. More sophisticated techniques will leap into action in those situations to try to shed load where it can be shed, such as stopping the charging vehicles if they are not urgently needed. Some of that depends on progress in the consumer industry and the appliance industry, but it all comes back to the fact that you need intelligence, monitoring and visibility of the grid to support that kind of innovation.

Senator LUNDY—What are the things that NBN Co need to be doing now to make sure the network they build is fully able to exploit opportunities for improving energy efficiency and to achieve green ICT outcomes?

Mr Eckermann—I think at the earliest opportunity that it has the resources to do so it should engage the utilities collectively and/or individually, because the stated intent of the NBN is to use overhead deployment where it is feasible to do so. That will see optical fibres running right past those transformers that all need monitoring. It is fair to say that there are a lot of complex issues in that. With a different hat on, I will go back to our experience in creating TransACT. Even though we were working under the auspices of ActewAGL, sorting out a deal to use the electricity poles was one of the more difficult aspects of that project. You find there are poles that do not have clearances for extra wires, that will not support the weight, that have been damaged by termites and that are staked and unions do not believe are safe to climb. There are also complex earthing issues if there are any metallic elements in the cable. We managed to set fire to a small patch of bush during our pilot because of a very obscure problem to do with earthing. There are a lot of complex issues and, at the end of the day, I believe our dependence on energy is at least as crucial as our dependence on information. So, if there is a crisis in the grid, the primacy of utilities need over communication need will need to be recognised. If they have to cut wires to prevent a situation that endangers lives then that could see cables come down. There are a lot of issues in that space over and above the public ones of visible cables and so forth that really need a solid engagement at an engineering level.

Senator LUNDY—It is important for the committee to note that you were involved in the rollout of the TransACT fibre-to-the-hub network. Apart from the point you make about complex earthing issues, are there any other major lessons arising out of your experience with that particular rollout that you think would be instructive to NBN Co at this stage—notwithstanding the difference in the networks?

Mr Eckermann—It was a tremendously exciting chapter in my career and an enormous learning period on the complexities of these things. There is always pressure in the planning phase to push down costs and gild the lily as best you can. When it comes time to deploy, invariably costs tend to creep up a little bit. We went through that in creating TransACT, and I

am sure some of those same pressures will be applied to the NBN. It is the sort of subject one could write a book on. It is not an easy one to give a quick answer on.

Senator LUNDY—No. I thought it would be worth giving you an opportunity here. Please feel free to correspond with the committee if anything comes to mind.

Mr Eckermann—Thank you.

Senator LUDLAM—Thanks very much for your submission. I recognise that you said before that this is quite a new field, but who in your view is the world leader in smart grid rollout?

Mr Eckermann—I think it would be very difficult to pinpoint a single leader. If I look back on the broadband industry, there were major players back in the mid-nineties when it was just forming. The industry has grown like a wave and built up over 15 years and is still going through many machinations to get towards the end goal of fibre to the premises, and I think we will see the same with smart grids. I think we will see corporate takeovers and we will see standards emerging and bringing things together. We will see approaches proving out and some failing. At the moment, one of the significant trials in the world is in Boulder, Colorado, and the utility behind that project set up 80 value propositions, with the full expectation that some would fail and if they did not fail, with the belief that then they had not pushed themselves hard enough. So it is kind of early days to say that there is a simple, clear leader in the market. There are certainly large players. I have done some work with a company called Current; IBM and Cisco—all the big names in the industry—are working in this field and see it as an enormous growth market.

Senator LUDLAM—But it sounds like there are not a lot of case studies on the ground that you can point to. You mentioned Victoria in your submission, and Colorado is another. How many real-world examples could you point to?

Mr Eckermann—Victoria is focused on the meters, and meters are just one element in a smart grid. They have potentially a very crucial positioning in the network, because they sit right at that interface between the grid and the consumer's world and, to the extent that you want communications across that point, it is very important that you have an adequate communications fabric. There is no question that it could be provided technologically by the NBN. In Victoria, though, the driver has not been smart grids; it has been smart metering, and the communication requirements for metering are very modest by comparison. In essence, you need to sweep up your usage readings in time to issue a bill, and that is a very different requirement from the millisecond-by-millisecond sort of chitchat that is balancing and finetuning the operation of the grid. So the NBN could clearly satisfy requirements for communication right down to the end point, but you do hit pragmatic issues like the placement of the optical network termination—the little device that sits at the end of the fibre and breaks it into an electrical signal for reticulation through the house. If the NBN is to be used for smart grids, that box will have to be powered upstream of the meter because of the need of the utility to be able to disconnect power and then, importantly, reconnect it. So you start getting into issues of where that box will be located, whether it will be tamper-proof from the user, whether it will have a power point that is powered upstream from the meter, how NBN will be paid for the utility use of that—lots of complex issues. The greatest opportunity exists in greenfields because, if you look at some of the

fibre-to-the-home deployments around Australia, it is very common to put that ONT in a box right next to the utility meter.

Senator LUDLAM—Just remind me what ONT stands for.

Mr Eckermann—Optical network termination—the little box where the NBN comes in and stops and then hands over to the user world. So it is a little box of electronics that needs mains power and, in a fibre-to-the-home suburb, that is very commonly located right next to the meter. So in principle you have a good framework there where the ONT could have a link across from the meter and carry utility data.

Senator LUDLAM—So that is how a smart house would work. Presumably to get a smart grid you are going to need hundreds of thousands of people to be participating or it is not really going to work. What electricity market structure would you need to persuade utilities on that? Effectively, we are trying to tell them to sell less of their product.

Mr Eckermann—Yes, it is a challenge. That identifies a key issue because, in the current regulatory environment—and I am not an expert on this—they negotiate a price designed to recover their costs, and if you sell less of your product you have got to change that formula a little bit.

Senator LUDLAM—Well, a lot.

Mr Eckermann—A lot, yes.

Senator LUDLAM—So we are talking about an eight-year rollout for NBN deployment. How does that sit with projections of the smart-grid deployment? Is that a comfortable timeline as far as you are concerned?

Mr Eckermann—I think they are quite well aligned, except in Victoria, where the utilities are all under pressure to replace all their meters over the next four years. That in turn has forced them to make choices about their communications. So, in a sense, NBN comes too late for them to really consider. For the rest of the country, their deliberations about smart meters are all being framed in the context of smart grids and with NBN there on the horizon, so I think there are opportunities to explore the synergies.

Senator LUDLAM—What degree of expertise do NBN Co. and the relevant government departments have on board to make sure that these conversations are being had, rather than occurring in silos?

Mr Eckermann—I am not aware of what expertise they have in that space.

Senator LUDLAM—Thank you very much.

CHAIR—Thank you very much, Mr Eckermann, for your time before and again today.

Mr Eckermann—That is a pleasure. Thank you.

Proceedings suspended from 3.50 pm to 4.07 pm

EDGE, Mr John, Division Manager, Government Business, Special Claims and Land Policy Division, Department of Finance and Deregulation

LEWIS, Mr Simon, PSM, General Manager, Asset Management Group, Department of Finance and Deregulation

SAUNDERS, Mr Peter, Division Manager, Budget Review Division, Department of Finance and Deregulation

CHAIR—We welcome witnesses from the Department of Finance and Deregulation. I think you are well aware of the processes for hearings of this nature. Would you care to make a brief opening statement?

Mr Lewis—We are happy to help the committee but we have no particular opening statement.

Senator IAN MACDONALD—We were questioning Treasury earlier this morning about a number of issues, and they were suggesting we should put them to you. Where did the figure of \$43 billion come from? Is that something that you were involved in?

Mr Lewis—Certainly.

Mr Saunders—We were involved in working through a preliminary estimate of costs of building the national broadband network that was prepared by the department of broadband and in the normal process, as I explained to a Senate estimates committee, we had an iterative dialogue with that department in seeking to verify and validate the assumptions, test them against benchmarks that we could find externally, and so on, and eventually as a result of that process we arrived at the figure of up to \$43 billion which, as everyone has stated, is a preliminary estimate prior to the implementation study.

Senator IAN MACDONALD—Did you actually do the costings or did the home department tell you what was needed—how many lengths of fibre and how much a length that was? How did that process work?

Mr Saunders—They proposed some assumptions and estimates and we worked through them with them, asking questions. As I said, it was an iterative process, a cooperative one.

Senator IAN MACDONALD—And for the funding of the \$43 billion, is that your area or was that Treasury or the home department or the NBN Co.?

Mr Lewis—Senator, that would ordinarily be Treasury. I hope they did not palm that question off to the finance department—

Senator IAN MACDONALD—They did give us ideas of debt and equity and the issue of Aussie infrastructure bonds. That is all their area, is it?

Mr Lewis—That is right, that is their area. But I am sure that they would have made the point that issues to do with that will need to be studied in quite some considerable detail as part of the implementation study with a view to putting advice back to the government in relation to each of those issues—the equity issues and the debt.

Senator IAN MACDONALD—Were you involved in any way in the commercial reality of this program? Is that something that you did or was it the home department?

Mr Lewis—We were certainly involved in putting advice to the government in relation to the commercial tests that would need to be appropriate to NBN Co., as it is called, in relation to the rollout of the broadband network.

Senator IAN MACDONALD—Could explain to me—and I certainly have no technical expertise in these areas—how a new company with a capital rising up to \$43 billion can possibly compete against a Telstra? Telstra already has a network in place and already has customers and does not have to spend \$43 billion to get to a working position. The majority of the market—Brisbane, Sydney, Melbourne, Canberra, and perhaps Adelaide—are already there providing an NBN service. How can NBN Co. possibly return a profit, as they indicated they wanted to do, when they are competing against someone that can almost do the same thing for perhaps a couple of billion dollars upgrade and a bit more fibre, and Telstra does not have a \$43 billion capital outlay to try to deal with to compete?

Mr Lewis—There are a number of assumptions there that we need to unpick a little bit.

Senator IAN MACDONALD—You can say that they are wrong.

Mr Lewis—I think I would start by saying that what has been agreed to has been a broadband network which will cost up to \$43 billion by way of preliminary estimate. But the way in which it will be deployed is obviously the subject of the implementation study right now. There is any number of different scenarios whereby the network is actually going to be built, and that will depend very much upon the nature of negotiations with the various parties. It is not just Telstra—

Senator IAN MACDONALD—There is Optus. I was just using Telstra as an example. Optus have their own fibre networks around the regions.

Mr Lewis—Clearly, the intention is to have NBN Co. operating on a commercial basis and one of the key things that the government will be keen to obtain from the implementation study is some of the choices relevant to achieve that objective.

Senator IAN MACDONALD—But to get to a \$43 billion figure, you or someone else must have worked on some assumptions.

Mr Lewis—There were a range of assumptions and also advice put to the government. I suppose I really will not be in the business of giving an answer concerning the nature of advice we put to the government in relation to matters of that kind.

Senator IAN MACDONALD—I have been around long enough to know that you cannot repeat advice to government. But are you not able to say to me what costing elements were included in your calculation of \$43 billion?

Mr Saunders—I can run through the technical components. Thinking of the network in a logical way, there is the backhaul element, the major trunk routes around the country—

Senator IAN MACDONALD—Then you assume that Telstra would still have its own backhaul system running parallel with yours?

Mr Saunders—The costing was on the basis of a build of the network, but obviously it is a live option for that network to be constructed by elements that already exist. You need to get into the network—

Senator IAN MACDONALD—For \$43 billion you must have assumed either that you would be building a parallel one or you would be compulsorily acquiring Telstra's or somehow after years of antagonism all of a sudden Telstra and the government would be budsies-budsies and we are all going to—

Mr Saunders—The capital cost assumed that a network would be either built or bought, and the buying of that network was not part of that. Whether it was built or bought was not part of the costing process but one could imagine an outcome, as has been discussed in the public arena since then, where assets that already exist are vended into the NBN Co. in exchange for money or in exchange for equity.

Senator IAN MACDONALD—So your \$43 billion would have built or bought—and let us say that built equals bought—and let us not go into whether it is built or bought but we will allow X billion dollars for built and the same X billion dollars for bought, so let us do the next calculation. Is that what you are saying?

Mr Saunders—That is right. It also allowed an amount for early implementation of the network in Tasmania. It allowed for the building of the fibre-to-the-premises distribution network, that is, the fibres running down the streets and roads.

Senator IAN MACDONALD—Fibre to the premises in every community in Australia?

Mr Saunders—The assumption for the moment in this preliminary costing is that 90 per cent of homes and businesses would be connected via fibre.

Senator IAN MACDONALD—Okay, so that took into account every non-remote part of Australia? I am not asking you to confirm that or otherwise, but you would obviously have taken into account fibre to the premises in the little towns, for example, places like Hughenden and Wellington?

Mr Saunders—Obviously we did not get into the identity of particular towns. It was assumed—

Senator IAN MACDONALD—So many households, I assume.

Mr Saunders—That is right—90 per cent of the premises would be connected by the fibre. The next assumption was about the actual connection from those fibre leads in the roads and the streets to the homes, and Senator Conroy has mentioned that the working assumption was that all premises would be connected. Then the remaining 10 per cent was assumed to be by a combination of wireless and satellite with the details of that to be worked over in the implementation study. Then there were overheads and contingency added on top of those.

Senator IAN MACDONALD—Thanks for that. Finance is satisfied that with that expenditure to do those things you will get enough customers onboard to make it pay?

Mr Saunders—Our costing exercise was entirely related to the cost of building or acquiring a network. It was not a business study or a cost-benefit study or a business case analysis. That is being done as part of the implementation work that is now going on.

Senator IAN MACDONALD—So there is a cost-benefit analysis going on as part of the implementation study?

Mr Saunders—I do not believe so.

Mr Lewis—I would not use the term ‘cost benefit analysis’. Certainly there is business modelling work in relation to NBN Co., looking at a range of scenarios and looking at a number of the choices in relation to the design and roll-out and the commercial operation of NBN Co.

Senator IAN MACDONALD—Mr Saunders did mention the words ‘cost benefit’, which, I would have thought, most reasonable analysts would want to know about before going into this. Did Finance do the equivalent of some cost benefit analysis? I know there has been no cost benefit analysis done, but did you in your advice to government look at something that would effectively give a comparison of the benefit to the country versus the cost to the country?

Mr Lewis—I think the minister is on record talking about a cost benefit analysis—I think those are the correct words; I would not want to inadvertently use incorrect phraseology. In terms of advice on cost and benefit, certainly we have given advice to the minister in relation to those matters on NBN Co., but a full cost benefit analysis was not done as part of the period leading up to the announcements by the government.

Senator IAN MACDONALD—Are you able to tell us why?

Mr Lewis—No. I can simply repeat that there was advice given to the government in relation to costs and benefits as part of the consideration of the issues prior to the announcements.

Senator IAN MACDONALD—Advice given on costs and benefits and yet no proper study was done of costs and benefits.

Mr Lewis—The challenge is that clearly a huge amount of work is necessary in relation to a whole raft of issues to do with assumptions about revenue that would be generated, strategies for building the network and what that means for customer growth over the period of time necessary. That is the work that is currently underway in the implementation study.

Senator IAN MACDONALD—I am sure that, if not one of you three gentlemen, someone in your department would have been tasked to read Mr Ergas's cost benefit analysis. Would you care to comment on that? Do you agree with it?

Mr Lewis—I have not and I would not comment.

Senator IAN MACDONALD—You would agree with me that someone in your area would have looked at it.

Mr Lewis—No, I am not sure that I would agree with that. Henry Ergas was not an adviser to the government in relation to the broadband initiative, as far as I am aware.

Senator IAN MACDONALD—No, he was certainly not. He did his dash, I believe. He would be the last person the government would ask, because they would not get the results they want. But he is a significant figure and is recognised in his field. At a Productivity Commission roundtable, which I am sure your department would have had someone at, he delivered a paper which, as I understand it—and it is all double-Dutch to me—was a cost benefit analysis. In fact, we questioned him about it earlier today. On the sorts of uncertainties you were talking about, he indicated to us the uncertainties that analysts always deal with, saying that there is a very standard way of dealing with those. He had no trouble in getting a cost benefit analysis.

Mr Lewis—The question is whether it is any good. There is a huge amount of work necessary to produce analysis that would be used for decision making in relation to the broadband network deployment.

Senator IAN MACDONALD—That is why I am inviting you—

CHAIR—So nothing is better than something?

Mr Lewis—I would not want to give the impression that there is no work underway. There is a huge amount of work underway, looking at issues in relation to the development of the network, its design and its commerciality. As I said, that is work underway currently.

Senator IAN MACDONALD—You say 'whether it is any good'. I assume you are talking about Mr Ergas's work.

Mr Lewis—I am simply making no comment on it.

Senator IAN MACDONALD—That is why I am giving you the opportunity of saying your department has read his paper and pointing out to me where he is wrong.

Mr Lewis—I am not saying we have read his paper. In fact, I am not sure that I or any of my colleagues have read his paper at all.

Senator IAN MACDONALD—Could I put a notice to you that you check with your department as to whether anyone in your department was at that roundtable and whether anyone has actually looked at his assessment. If they have, could they point out to us the bits that Finance agrees with or, alternatively, the bits that Finance does not agree with.

Mr Lewis—The problem I have got with that is that the very process of doing so in effect will be giving you, by a sort of reverse mirror approach, the advice that we have put to our own ministers in relation to the development of the network.

Senator IAN MACDONALD—Hang on. One of the great criticisms was that there was no cost-benefit analysis done. Whether that is a valid criticism or not I do not know but it is certainly a very public criticism. Now here is a respected economist who has done some work and I am interested to know whether or not he is on the right track. The government is not giving us that information, which the potential payers of the ‘investment’, being I and every other Australian, have some entitlement to know. Here is a guy who has tried to do it. If he is wrong, wouldn’t it be useful for you to say to us—and to Professor Ergas—‘Sorry, but he did not take this into account’ or ‘He did not put enough weight on that’?

Mr Lewis—I think the best I could do would be to take on notice that we will look at your question and look at whether there is something that could sensibly be provided which preserves the government’s position vis-a-vis the commerciality and commercial sensitivity of the issues that it probably relates to. Personally, I have not seen his report. I do not know what the distillation of it is. I have seen an article—or two—which refers to it but I genuinely have no idea as to its content.

Senator IAN MACDONALD—Mr Lewis, I am not suggesting you do. But you have a huge department who is expert in running down every burrow of anything that anyone says, including—

Mr Lewis—You might be slightly overstating the resources available to the finance department.

Senator IAN MACDONALD—Well, you seem to be spending a lot on running down the track of every newsletter every politician sends out, which is now going to be vetted by your department or by the Prime Minister or by the Special Minister of State or someone, so I assume from that that you have plenty of resources that you would be able to use. Anyhow, one thing you can tell me on notice is whether anyone in your department was there and heard it or has read it. As to whether you comment on whether he is right or wrong, I can understand your argument. I will leave the question there but perhaps you can repeat your denial in writing.

CHAIR—I would also ask this on notice, that if no-one in the department has read Professor Ergas’s costing analysis someone be tasked to do so and then answer the rest of Senator Macdonald’s questions to the effect that if you say it is wrong where so.

Mr Lewis—We will take that on notice.

Senator IAN MACDONALD—You are not involved with the issuance of the Aussie bonds because that is for Treasury?

Mr Lewis—That is for Treasury.

Senator IAN MACDONALD—Do you look at things like the return on those bonds out of the profits of NBN Co. or where they are going to come from? Is that part of the expenditure of government that you people are involved in?

Mr Saunders—Public debt interest might be what you are referring to.

Senator IAN MACDONALD—Yes.

Mr Saunders—That is a Treasury expenditure item. It is a calculation that is done for all the financing instruments of government. I am not sure what further information we can provide.

Senator IAN MACDONALD—I am just wondering if it is related. I think the minister has said that this is a way by which Australians can get involved in investment in the National Broadband Network. I am wondering if Australians would want to invest in something that is not going to return them a profit. If it is going to be government guaranteed then the taxpayers will be subsidising it if perchance NBN Co. does not make a profit sufficient to pay its interest on its capital raisings.

Mr Lewis—As you have been talking further about the issue, I think you have been talking about the possible structure of these debt instruments and whether there is a guarantee et cetera. Those are clearly matters for Treasury.

Senator IAN MACDONALD—Is any borrowing that NBN Co. might do something that you would oversee?

Mr Lewis—One of our roles is as a joint shareholder in NBN Co. and our minister is a joint minister as to NBN Co. We would be very interested in relation to the gearing ratios for NBN Co. and the basis on which NBN Co. is borrowing to fund its operations.

Senator IAN MACDONALD—Will NBN Co. borrow on the commercial market?

Mr Lewis—Again, those issues are being looked at in the implementation study and there are a number of options. We will need to wait for the results of that analysis and the government decision in the light of that.

Senator IAN MACDONALD—Is it possible that the government can borrow at what I would loosely term its favoured rate and then pass the money through to NBN Co. at a less than commercial rate of interest? Is that possible?

Mr Lewis—My understanding is that would be possible. Obviously that would not be as commercial an operation as the government business enterprise borrowing on its own account. There are a number of cases we have at the present time where government business enterprises do that. As Mr Murray may have mentioned this morning, there will usually be a small price premium for borrowings by a GBE on its own account but, nonetheless, those businesses stand more on their own two feet through the process of doing so.

Senator IAN MACDONALD—On any major acquisitions NBN Co. decides to make, would your department as one of the shareholding departments have an oversight of that?

Mr Lewis—It is very early days now and we have yet to put in place clearer plans for how NBN Co. will operate in the normal operation of a GBE. Why don't I just paint the general picture so you get a sense of it. Government business enterprises are required to lodge with ministers their corporate plan, which outlines their future plans of action including capital acquisitions. Ministers are aware of those plans; if they have comments on them they would provide those comments as shareholder ministers. Then the company, under the oversight of its board, would implement in accordance with those plans. So I think it is quite possible that NBN Co. could flag a range of possible acquisitions to ministers beforehand. Ultimately—

Senator IAN MACDONALD—To ministers—that means through ministers to you.

Mr Lewis—No, to ministers. We advise ministers. We support the shareholder ministers in their role as shareholder ministers.

Senator IAN MACDONALD—So if NBN Co. decided they were going to make a bid for Telstra at the market capitalisation—I do not know what it is but say it is \$100 billion—you would be involved in giving advice on that.

Mr Lewis—For any substantial acquisition of that kind for any of the government business enterprises that remain within the government's purview you would expect that the board and management would be dealing respectively with the shareholder ministers and the shareholder agencies. In this case it would be the broadband department and the finance department.

Senator IAN MACDONALD—Okay.

Senator LUNDY—What is your advice to people contacting the department wanting to know when the NBN will be rolled out in their area? What are you able to tell them, if anything at all?

Mr Lewis—We simply have to do say that there is an implementation study underway which is looking at the very broad issues to do with network design as well as rollout strategy, and until those matters have been properly looked at there is really no advice as to what the timing is likely to be.

Senator LUNDY—Can you give the committee an indication of how many people are making that inquiry?

Mr Lewis—Very few.

Senator LUNDY—They must all be asking me, then!

Mr Lewis—I do not think we are aware of any.

Senator LUNDY—But I can only give them the same answer, of course.

Mr Lewis—I am afraid so.

Senator IAN MACDONALD—You could refer them to the department of broadband, Senator.

Senator LUNDY—I will send them on to you!

Senator IAN MACDONALD—I thought that would be your answer.

Senator LUNDY—An issue that came up earlier in discussions with Mr Quigley from NBN Co. was how they access information regarding the physical state of the existing network, particularly identifying areas with pent-up demand such as those affected by pair gain systems like RIMS. We have one such area that is quite well-known here in Canberra, and that is Gungahlin.

Mr Lewis—I know it well. I experience it daily.

Senator LUNDY—My question is the same but from your end: what information is available to be provided to NBN Co. about broadband congested areas or areas where broadband is effectively a finite resource and unavailable to new customers—or, indeed, blocked, given the use of old pair gain systems?

Mr Lewis—If I understand the gist of your question, my understanding is that NBN Co. is doing a lot of work as one of its early due diligence tasks to try to get a sense of the prospects of different regions and of the problems that have been encountered. I really would not be able to give you any particular granularity on the extent to which they are doing that. Did Mr Quigley touch on that issue when he addressed you earlier today?

Senator LUNDY—He spoke about trying to get information. The question to you is: is there any information held by your department that is useful in that regard?

Mr Lewis—I do not think so. The broadband department may have some, but our role really is quite marginal. They have a significant initiative and significant resourcing attached to the broadband initiative. The finance department really has very little to do.

Senator LUNDY—That is what I thought.

Senator BIRMINGHAM—What capacity does NBN Co. have to make decisions independent of its shareholders about the acquisition of assets or infrastructure?

Mr Lewis—It has not been resolved in detail yet, because we are still in the course of an implementation study, but it would not be unusual for a materiality threshold to be established below which the government ministers may have less focus and be more reliant upon the board in relation to acquisitions and above which they would take a more direct role. I am painting a more general picture rather than what will apply for NBN, though, because decisions on acquisition strategy, as well as governance arrangements, will need to be agreed upon. My sense is that, given that the implementation study is underway now and NBN Co. is gearing up as we speak, there is very close interaction with key ministers in relation to such issues right now. Whether it will always be like that is, I think, an open question, because ordinarily shareholder ministers probably would not get very heavily involved in very minor acquisitions by, say, a large business like Australia Post.

Senator BIRMINGHAM—So you would expect those protocols to be developed and established partly over time but particularly after the implementation study has been concluded and there is some certainty about timeline, expenditure, assets they are purchasing and so on?

Mr Lewis—Yes, but it could be at around the same time, because we do have the implementation study report. There will need to be business plans brought forward by NBN Co. and government will need to agree to those plans.

Senator BIRMINGHAM—Mr Quigley left the door open today for making acquisitions prior to the conclusion of the implementation study. What would be the process for such acquisitions to be made at present?

Mr Lewis—I am sure that Mr Quigley would be consulting with the shareholder ministers in relation to his acquisitions.

Senator BIRMINGHAM—Does finance believe it prudent for acquisitions to be made prior to the completion of the implementation study?

Mr Lewis—The implementation study is unlikely to have a landing all at one point at the very end; there are obviously going to be issues that need to be addressed through the course of the implementation study. I do not for a moment discount the possibility that, in light of the way the implementation study is progressing, decisions could be made if they look consistent with the broad strategy for NBN Co. It is hard to see that that would be a huge acquisition, but it really depends on how the implementation study progresses.

Senator BIRMINGHAM—So from finance the door is open in terms of the appropriateness of making such purchases?

Mr Lewis—It would need to be done in the context of elements of the implementation study having resolved elements of the broad framework. In that context, some acquisition could make a lot of sense. There might be bargains; I do not know.

Senator BIRMINGHAM—So you are saying that for assets to be purchased and acquisitions to be made there should have been some study of that within the confines of the implementation study that said, ‘This is the type of asset or acquisition that we want.’

Mr Lewis—To put it in reverse, it would be somewhat incongruous to acquire something that is completely inconsistent with the work done on the implementation study.

Senator BIRMINGHAM—It would be incongruous indeed. The suggestion in the evidence from Mr Quigley seemed to be that the door is open to making such acquisitions regardless of when those component parts of the implementation study are completed.

Mr Lewis—I am not aware of Mr Quigley’s evidence, but the general point I am making is that I could see acquisitions being consistent with the way the implementation study is progressing.

CHAIR—Mr Lewis, you talked about the implementation study doing things in stages—those are my words, but that is the impression I got. Do you know whether the implementation study will result in what might be referred to as ‘interim reports’ or ‘interim decisions’ that might assist with some of the questions in some of the areas?

Mr Lewis—That would certainly make sense to me. This is ultimately a question principally for the broadband department rather than for us, because the broadband department is running the implementation study, as you would be aware. I believe it would be sensible for an interim report on some issues to go to the government prior to the delivery of the final report in February.

CHAIR—What would you describe as some of those issues?

Mr Lewis—That is really a question for the broadband department. I just think that it would make sense for the broadband department to bring forward at least that one interim report, if not more than one, prior to the delivery of the final report.

CHAIR—But you are a man of considerable experience and, if you think it would make sense, you would be saying that based on some of your experience. So give us the benefit of it and suggest some of the areas.

Mr Lewis—I will put it this way: we might be giving advice to the broadband department about what we think should be the early issues on which they should be bringing matters back to the government.

CHAIR—Did you say you ‘might’ be giving advice?

Mr Lewis—We are consulting the broadband department in relation to issues that we think it would be sensible to bring forward for consideration earlier.

Senator BIRMINGHAM—You are obviously not willing to share with us what those areas are, Mr Lewis.

Mr Lewis—I would prefer not to.

CHAIR—Thank you, gentlemen, for your appearance today.

Mr Lewis—You are welcome.

[4.43 pm]

BEAUCHAMP, Ms Glenys, Deputy Secretary, Governance, Department of the Prime Minister and Cabinet

DICKSON, Dr Rhondda, First Assistant Secretary, Industry, Infrastructure and Environment Division, Department of the Prime Minister and Cabinet

HOFFMAN, Mr Martin, Executive Coordinator, Strategic Policy and Implementation, Department of the Prime Minister and Cabinet

CHAIR—Welcome, ladies and gentlemen. Would you care to make a brief opening statement?

Ms Beauchamp—No. We are happy to support the committee in any way we can.

Senator IAN MACDONALD—What part does the Department of the Prime Minister and Cabinet play in the NBN proposal?

Ms Beauchamp—The Department of the Prime Minister and Cabinet, as with other major initiatives and major announcements by the government, plays a key role in supporting the Prime Minister, the Cabinet Secretary and the parliamentary secretaries. We have got a role where there are major issues that go across a number of agencies, like the NBN, to provide integrated and coordinated advice going forward to cabinet.

Senator IAN MACDONALD—Okay. I would have said you are there to check on the home departments and finance departments but I know you would never agree with that, so I will not put that to you. What is the process that you are following? How do you fit in with the NBN proposals? How does your involvement work?

Ms Beauchamp—The department obviously is involved in assisting the shareholder agencies and the Treasury in considering proposals that are put forward, particularly in the context of government considering some policy and micropolicy issues.

Senator IAN MACDONALD—So in this instance the department of communications would have formulated a proposal which they would then talk through with you. What expertise do you bring that is not in communications or finance?

Ms Beauchamp—In general, and I will let my colleagues answer issues around detail, we play a coordination and integration role to ensure we do get whole-of-government advice going forward. Each agency brings with it, obviously, their minister's priorities and roles and responsibilities. We all have different levels of expertise right across the line areas and central agencies, so we bring what we can in terms of, as you seem to be indicating, critiquing what some of the other agencies might be doing. I think we ensure that whole-of-government policy priorities are being considered as well as the line agencies looking at just their portfolio responsibilities.

Senator IAN MACDONALD—What have you done with the communications department since the April announcement? Is it constant, ongoing work? Are you oversighting the implementation committee for example?

Ms Beauchamp—As you have heard today I think the department of broadband and the other shareholder agency are taking the lead on the implementation components, particularly around oversighting the implementation study. We are of course involved as part of that process.

Senator IAN MACDONALD—Perhaps I should have asked this of finance but in answer to some Senate estimates questions the \$43 billion cost estimate was on the assumption of a 90 per cent take-up rate for connection to the network. Were you involved in that decision at all? Does that accord with your understanding that the assumptions on money require a 90 per cent take-up rate for connection to the network using fibre to the premises technology?

Ms Beauchamp—The government has made announcements about that. These things were considered through government processes. We are of course involved, as the department is, in those consideration processes where government is considering a number of issues.

Senator IAN MACDONALD—You would not seriously consider a 90 per cent take-up rate on any commercial consideration of the proposals versus the existing Telstra customers.

Mr Hoffman—I do not believe that the 90 per cent figure has been stated to be a take-up rate but rather a coverage percentage of premises by that mechanism versus approximately 10 per cent by wireless and satellite for the remainder.

Senator IAN MACDONALD—My notes show that there was a direct quote from an answer given by the Department of Finance and Deregulation to a question on notice at estimates. Perhaps I have it wrong. Are you aware of what take-up rate is required to make this commercially viable against an existing commercial operator providing a similar service in the major user areas of our country?

Ms Beauchamp—Those sorts of issues will be considered as part of the implementation study. My colleagues previously today, both in the Treasury department and in the department of finance, have indicated that as well.

Senator IAN MACDONALD—Okay. I do not have anything more for the moment.

Senator LUNDY—What sorts of inquiries, if any, is PM&C getting in relation to the National Broadband Network?

Ms Beauchamp—Sorry?

Senator LUNDY—What sorts of inquiries have you had about the rollout of the National Broadband Network?

Ms Beauchamp—From constituents and the public?

Senator LUNDY—Yes, from citizens.

Ms Beauchamp—I cannot answer that personally, but my colleagues may be able to.

Dr Dickson—I think I will have to take that one on notice. I do not know. It has not been very significant.

Senator LUNDY—That is fine. I am just making a point of asking each department about the sorts of queries they are getting.

Ms Beauchamp—I do not think we are being flooded by ministerial correspondence, for example, which is our key indicator. I think there are a lot of expectations coming out about what will happen once we go through the process, the implementation study and the like, yes. But certainly I do not think we have been inundated by ministerial correspondence.

Dr Dickson—Do you want us to give you any advice on that?

Senator LUNDY—No, that is fine. I am making the reasonable assumption, I think, that most of those inquiries are going to the Department of Broadband, Communications and the Digital Economy. I will be asking them the same question. I really do not have further questions, Chair. Thank you.

Senator BIRMINGHAM—I am curious as to what, if any, consideration PM&C has given to competition issues, competitive neutrality issues and so on for the NBN. Is it an area that your department has considered at all, or is that something purely left to others?

Ms Beauchamp—I think the experts in this area are in the Treasury. They would certainly be looking at competition policy, competitive neutrality and those types of things. We would work with them.

Senator BIRMINGHAM—What type of feedback has PM&C had from within the industry since the NBN was announced? Have there been meetings held with PM&C or briefs required for meetings held with the Prime Minister with other industry figures?

Ms Beauchamp—I am not aware of any meetings with industry figures through the Prime Minister's office. I would have to take that on notice.

Dr Dickson—We have not provided any briefs for meetings between the Prime Minister and industry or the Prime Minister's office and industry.

Senator BIRMINGHAM—Was PM&C involved at all in the identification of Tasmania as the trial ground for the NBN?

Dr Dickson—That was part of the proposal that was considered by government before their announcement, so in our role of working with the other agencies we were involved in that respect.

Senator BIRMINGHAM—Was that part of the recommendation from the NBN expert panel or whatever the previous body was called that was advising on the first stage of NBN, or was

that a request that came from Tasmanian government, possibly at first-minister level or otherwise?

Dr Dickson—As I said, it was part of the proposal that governments were considering.

Senator BIRMINGHAM—I am wondering what was the genesis of it being part of the proposal.

Dr Dickson—I cannot answer that.

Senator IAN MACDONALD—Senator Birmingham asked you about your role in the competition aspect, and you were telling me earlier that your role is a coordination and whole-of-government role. Treasury is very keen to promote competition. I would have thought that the broadband department might not have been quite as keen, which I guess brings in your role as the mediator and coordinator of government responses. That is why I was surprised at your answer to Senator Birmingham that it was not really something that you would be looking at.

Ms Beauchamp—Issues around competition are really embedded in a lot of legislation and policy already, so our role would be to ensure that we are according with both government policy and the legislative requirements through the Trade Practices Act, the ACCC and the like. Those principles around competition policy are well embedded in our policy framework.

Senator IAN MACDONALD—But you have not done any special brief to the Prime Minister on competition policy, where, I would assume, the communications department and Treasury might have slightly different goals.

Ms Beauchamp—We provide a range of advice to the Prime Minister. I am not in a position to provide the nature of that advice and nor is the department. There may well have been some advice going up around some of the competition policy aspects as part of the cabinet process, but I am not in a position to provide you with details about that.

CHAIR—What is your role in the implementation study?

Ms Beauchamp—As I mentioned earlier, the shareholder agencies are taking the lead. The broadband department has contracted that piece of work. We are involved in a group across government, which the broadband department is chairing, overseeing that study.

CHAIR—So you are a part of, rather than being in charge of, any liaison or communication.

Ms Beauchamp—Correct.

CHAIR—Thank you very much for your time today.

[4.57 pm]

CAINE, Mr Grant, Senior Director, Australian National Audit Office

CASS, Ms Barbara, Executive Director, Australian National Audit Office

FOSTER, Mrs Alana, Executive Director, Australian National Audit Office

McPHEE, Mr Ian, Auditor-General, Australian National Audit Office

CHAIR—Welcome. You know the rules and regs around providing evidence to committees of this sort. Do you have any comments to make on the capacity in which you appear?

Mrs Foster—I am responsible for the financial statement audits in the ANAO. I have delegation from the Auditor-General to sign off on financial statements.

CHAIR—I invite you to make an opening statement.

Mr McPhee—The ANAO is the auditor of NBN Co. and recently completed its first audit of NBN Co. financial statements for the reporting period 9 April 2009 to 30 June 2009, issuing an unqualified audit opinion. The ANAO is also the auditor for NBN Tasmania Ltd, a fully owned subsidiary of NBN Co. established in August 2009. NBN Tasmania Ltd will prepare its first set of financial statements at the conclusion of 2009-10. For the information of the committee, the ANAO is currently conducting a performance audit into the management of the National Broadband Network request for proposal process by the Department of Broadband, Communications and the Digital Economy. The audit began in late June 2009 and is expected to be tabled in parliament in early 2010. The ANAO also undertook a preliminary review of the NBN RFP process in May 2008, early in the process.

CHAIR—Thank you. Earlier on today in his evidence Mr Quigley said that the NBN Co. was, as a GBE, subject to government rules. I presume that means that it would be subject to, for example, Commonwealth procurement guidelines.

Mr McPhee—I think you will find that the government Procurement Guidelines apply to what we call FMA agencies, agencies under the Financial Management and Accountability Act. As a GBE I would not expect them to be subject to the specific procurement rules, but I do not know enough about the specific set-up arrangements for NBN. But it is certainly worth pursuing further if that is important to the committee.

CHAIR—Are you able to agree or disagree with Mr Quigley's general statement—I do not want to misquote him—that the NBN Co will be subject to government rules?

Mr McPhee—It depends. There are government rules that relate to GBEs and, clearly, government can establish specific rules for specific GBEs. I have to say I am not across the specific details for NBN Company. As a general statement, the rules that apply to departments

and agencies are different from the rules that apply to government business enterprises and GBEs have more latitude, as you would expect, than departments and agencies.

CHAIR—Is it within your field of expertise to provide any further detail as to the requirements that would be upon the NBN in this respect?

Mr McPhee—I think the best place to seek that information from would be either NBN or the department of finance.

CHAIR—Thank you. I will come back with further questions.

Senator BIRMINGHAM—Thank you, Mr McPhee and colleagues, for joining us today. Can I turn firstly back to NBN part 1, which you have indicated that you are completing an audit for. I acknowledge that that is still a work in progress. When would you expect that to be completed?

Mr McPhee—The first quarter in the next calendar year, on our current timetable.

Senator BIRMINGHAM—The government attempted that process as a one-stage process. You noted in your reply to Mr Billson on 22 May 2008 that the department had advised that the NBN process involves a one-stage selection process to meet a commitment made by the current government during the 2007 election campaign to roll out the National Broadband Network commencing in 2008. Ignoring the fact that every aspect of that statement is now significantly past history, do you have any reflections or views on the wisdom of one-stage selection processes for such major projects, particularly in terms of how a government comes at the policy and implementation of something compared with the funding and final selection of a builder or a tenderer or components of it?

Mr McPhee—That is certainly an issue that we are considering in the context of the current audit—the process. It would be inappropriate for me to go into any detail at this stage, but it is certainly a consideration.

Senator BIRMINGHAM—How important would the ANAO consider the implementation study that is currently being conducted on behalf of the department of communications into the new NBN model to ensuring the appropriate efficacy and planning for that program?

Ms Cass—The department at the moment is going through the process of determining what the implementation plan will look like and how they will implement it. Our understanding at this stage is that it is not likely to be ready until early next year, possibly around February. We have certainly not examined it in any way.

Senator BIRMINGHAM—Would the ANAO be concerned if significant funds were to be expended on acquisitions, building programs or employment prior to the completion of that implementation study?

Mr McPhee—We would say that clearly there are risks around that. Clearly government is entitled to make certain decisions, and I guess departments have to do the best job they can in implementing those government decisions. The tighter the timelines, generally speaking, the greater the risks. So we would expect that the departments would have a risk management

plan—and they are generally followed fairly closely—to deal with such circumstances, if the timeline is such that processes have to be undertaken in parallel. I think the point behind your question is that in a desirable approach you would do some of those things sequentially rather than in parallel.

Senator BIRMINGHAM—That is certainly the point in terms of looking at what is desirable. You are still considering it, as you indicated, but in the first round of NBN the government proceeded to proposals, tenders and the whole kit and caboodle in one fell swoop. In this round we have the strange situation of outcome funding having been announced and an implementation study proceeding, but Mr Quigley leaving the door open today in saying that acquisitions may be made prior to the completion of that implementation study. That would seem to be an unusual order in which to do things. If I can jump back to the letter of 22 May you sent to Mr Billson, in your initial assessment of the first process, you indicated that amendments to the RFP would be required for non-compliant bids to be accepted at that time. Did you believe amending the RFP to be a risky activity? Did you consider what risks might be inherent in doing so, or do you think it would have been a straightforward process had the government chosen to amend that RFP?

Mr McPhee—I think, had the government sought to amend the RFP, it would have had to follow an approach which was open and transparent so that all of the proponents were aware of the change. But, in the event, Senator, as you know, the RFP was not changed. We were just making that point.

Senator BIRMINGHAM—I guess not all changes to the RFP would be of consequence, would they? Some would be of far greater consequence than others.

Mr McPhee—I would agree with that, but equally I would say that you would not make any changes lightly.

Senator BIRMINGHAM—You would not make any changes lightly, but, for example, requirements like including a small business plan in your RFP would be of less consequence than fundamentally changing what had to be built.

Mr McPhee—It is clearly up to the department and/or the government to determine the mandatory requirements to be met by proponents. It is very long-established practice with some legal standing as well. So it is clearly inappropriate for me to pass judgement on the relative importance of predetermined mandatory requirements.

Senator BIRMINGHAM—I am not looking particularly at the relative importance of them. If, partway through an RFP process, there were to be changes, some changes would necessarily go to the heart of bids that bidders might be making and other changes would be fairly superficial to the bid in their nature. Surely the risk to the Commonwealth of making superficial changes would be much smaller than the risk of making changes in significant areas.

Mr McPhee—I have not spent much time thinking about it and I think it is inappropriate for me to pass judgement on the relative merits of the particular criteria.

Senator BIRMINGHAM—No problem.

Senator IAN MACDONALD—Did anyone ask you to do your performance audit or is that of your own initiation?

Mr McPhee—We received a letter from Senator Minchin and as well, of course, there was an amount of press coverage at the time about the process, so a combination of the two factors led me to decide to undertake the performance audit.

Senator IAN MACDONALD—Will that performance audit include the economic and/or commercial viability of the network? Is that something you will look at?

Mr McPhee—I do not think so. I will ask Ms Cass to deal with that.

Ms Cass—Basically, what the audit will cover is the background to and the conduct of the RFP process. We are also looking at the management of key risks that were associated with the process and we are looking at the consultations with the stakeholders. That is what the scope of audit will be.

Senator IAN MACDONALD—The key risks against what? What sorts of risks?

Ms Cass—The risks associated with the process, and from that perspective we will be looking at how the department identified what it saw as the key risks surrounding the process and how it either mitigated or managed those risks.

Senator IAN MACDONALD—Is the risk of a loss to we taxpayers of \$43 billion in a bad commercial investment the sort of risk that you would expect the department to be looking at and therefore you to be auditing?

Ms Cass—I think it would be but I have to say that for this audit the quantum of the dollars that were on the table was \$4.7 billion. The \$43 billion is for the new NBN Co., and that is not part of the scope of this audit.

Senator IAN MACDONALD—All right; well that is helpful. As I have said to a few of the witnesses today, it just belies common sense and basic logic to think that a new entity which has to raise \$43 billion could compete with an existing entity which told us that for \$5 billion it could do the same job. Bearing in mind that most of the customers will be in Brisbane, Sydney, Melbourne or Canberra and that Telstra and Optus already have fairly good infrastructure there, it belies logic to think that one could compete with the other and turn in a profit and give a return or even pay equity to governments. That is my comment, but I am simply asking: is any of that something you would be looking at, or is that perhaps for a future NBN Co. audit in the fullness of time?

Mr McPhee—Two things: firstly, clearly our mandate does not provide for us to comment on government policy, and we do not; secondly, because NBN Co. is a government business enterprise, the Auditor-General Act at the moment does not provide full discretion for me to decide to do a performance audit of the company. Our mandate is, at the moment, to do with the financial statement audits, but we may be requested to do performance audits of any GBE and I may request the public accounts committee to ask me to do a performance audit of a GBE, but I do not have the full discretion, currently in the act, to do so.

Senator IAN MACDONALD—Apart from the public accounts committee, who else can request you to do an audit of a GBE?

Mr McPhee—Ministers. I should know this, but bear with me for a moment while I check.

CHAIR—Presumably parliament.

Senator IAN MACDONALD—If the Senate so resolved?

Mr McPhee—Let me read you the provision. It says:

- (2) The Auditor-General may conduct a performance audit of a wholly owned Commonwealth company that is a GBE, or of any of its subsidiaries, if the responsible Minister, the Finance Minister or the Joint Committee of Public Accounts and Audit requests the audit. The Finance Minister is to consult with the responsible Minister before making a request.

That is the specific provision. The next subsection says:

- (3) Nothing prevents the Auditor-General from asking a responsible Minister, the Finance Minister or the Joint Committee of Public Accounts and Audit to make a particular request under subsection (2)—

which is the subsection I just read out.

CHAIR—Nor, presumably, given the fact you are doing the audit on the RFP, can anything prevent the Senate, for example, from so asking you.

Mr McPhee—I think, if that were the case, I would probably have to go through the process of asking one of these people to ask me back.

CHAIR—I have just done a circle.

Mr McPhee—I should say for completeness that the JCPAA is currently doing an inquiry into the Auditor-General Act, and one of the things I have raised in our submission is whether it is time to remove these constraints on the Auditor-General undertaking performance audits of GBEs in his or her own right. So that matter is with the public accounts committee, but the provision went in some years ago and I think the world has moved on and our stable of GBEs is quite different from the stable of GBEs that we had in the nineties.

CHAIR—But legislation or rules like that cannot in and of themselves restrict what the parliament might decide to do, in any event.

Mr McPhee—Absolutely.

Senator IAN MACDONALD—I am not sure that that is right. If the Senate asked the Auditor-General to conduct an inquiry—

CHAIR—It has to be within his power.

Senator IAN MACDONALD—the Auditor-General has no power under that provision to do it unless we—

CHAIR—That is about how he gets the request in the first place, rather than his actual power.

Mr McPhee—I would then need to ask one of the earlier mentioned parties.

Senator IAN MACDONALD—Yes. It is all getting a bit hypothetical and perhaps a fair way down the track, but I would not imagine either minister would be too keen to have you delving into NBN Co. But that is just a personal comment and requires no response.

CHAIR—Does that mean that, following the request from the Senate for the round 1 audit that you are doing now, you went to the minister?

Mr McPhee—No. The difference here is the audit we are currently doing is of the department, because it ran the process. This is the former process for the \$4.7 billion proposal.

CHAIR—Okay. Yet even with that audit you are auditing the risks associated with the process and the outcome itself. Given the significant concern about competitive neutrality with the \$43 billion NBN spend, do you see that as potentially a major risk for the outcome? Would that be a major risk about which the Auditor-General would voice an opinion, were there to be an audit, given the arguments that the NBN Co., because of the government's stake in it, could effectively be getting a leg up in competitive neutrality terms?

Mr McPhee—I would say two things. Firstly, clearly we take government policy decisions as given in our work, but we are entitled to look at the advice given to government, for instance, on any matter, and clearly we are entitled to look at the decisions of government. We just cannot comment on the merits of government policy. Secondly, we do not have any particular audits programmed in this area, but we do have quite an open planning process by which we consult, through the JCPAA, with the committees of the parliament and say, 'This is our planned program for the year ahead,' and seek any comments on our program. So we are very open to suggestions from any committee of the parliament in terms of our future work.

Senator FISHER—Sorry; I was momentarily distracted. Do forgive me. Can you restate the last sentence.

Mr McPhee—I was explaining our audit-planning process, where we take into account a whole range of sources of information, including, importantly, the recommendations of the committees of the parliament. We foreshadow what we believe to be an appropriate program going forward and say, 'Here's our forward program, but we value comments.' It is open to committees to pass back comments. We weigh them up, and eventually I make a decision as to whether to include a topic suggested by a committee. We always write back to the committee to explain our position.

CHAIR—Beyond what you have already described here today, are there any other aspects or roles in which the Auditor-General would normally get involved in a project of national significance such as the \$43 billion NBN spend?

Mr McPhee—As you would be aware, we have looked at major projects over time, particularly in the defence arena. As I say, this one is a little unusual in the sense that clearly a range of government policy decisions have been taken in respect of the NBN, and there is the

matter of the access to the company itself under the performance audit mandate. So it is a little unusual in that respect.

CHAIR—How so? Can you explain more about what you mean.

Mr McPhee—I am just saying that it is a substantial program. The government has taken a range of specific policy decisions bearing on it, and there would be some current restraints in terms of doing performance audits of a GBE.

CHAIR—Because those policy decisions have already been taken?

Mr McPhee—Correct.

CHAIR—Implicit in what you are saying is that, were it not too late, there should have been some second guessing prior to it becoming too late. Is that correct? That is implied in what you are saying.

Mr McPhee—Governments are entitled to make decisions about timing and the extent of investment. Clearly departments provide advice on these matters.

CHAIR—Are you saying that you cannot really answer the question as to what happens normally because this one is not normal because the government has already made policy decisions?

Mr McPhee—I need to be careful. We have not—

CHAIR—You used the word ‘unusual’.

Mr McPhee—Yes. We have not looked at any aspects of this current proposal.

CHAIR—Is that in itself unusual?

Mr McPhee—No, that is not unusual. I am just saying that I do not have a full understanding of all of the circumstances, which is why I need to be careful in what I say. I am saying that in the normal course—in terms of defence projects, for instance—we look at the supporting information provided to government, at the contract arrangements and at many aspects of those major projects. That would be the normal or usual approach we would take.

Senator BIRMINGHAM—Is that because of the magnitude of those projects? Is there some sort of automatic trigger for projects of such magnitude?

Mr McPhee—We do tend to do a selection of major projects. We look at issues like risk and at any number of sources of information to determine the audit program. There are always many more topics than we have resources to be able to undertake audits of, so we endeavour to do the audits where we can add value and make a contribution to better public administration in the longer term.

Senator BIRMINGHAM—We went through the selection of the work program in response to Senator Macdonald, but in terms of your internal policies or otherwise is there any automatic trigger for projects of a particular magnitude or size?

Mr McPhee—We do take into account risk materiality and likelihood of recurrence, because we want to add value to public administration going forward as well as reporting on particular projects. It is not always necessary, but we do like to be constructive in terms of things that might have been done better, which may aid the undertaking of similar projects in the future.

Senator BIRMINGHAM—Does the \$43 billion price tag attach significant enough materiality?

Mr McPhee—I think it hits the materiality threshold.

Senator BIRMINGHAM—I will not ask you to necessarily comment on the risk. I understand that you are also auditing the infrastructure priority list?

Mr McPhee—We are doing some work in Infrastructure.

Senator BIRMINGHAM—Will that include the reverse consideration of why some infrastructure projects are not considered under Infrastructure Australia guidelines?

Mr McPhee—I would like to take that question on notice. I am aware we are doing work in that area, and I do not have with me the actual audit objectives for the audit that we are actually doing. But I do know we are doing some work in Infrastructure Australia; I just did not come prepared for the question.

Senator BIRMINGHAM—Could you come back to us and let us know if that audit will include why this significant infrastructure project was not subject to the same priority listing and the same assessments as others.

CHAIR—Earlier on you referred to the fact that the Department of Broadband, Communications and the Digital Economy are doing a risk management plan. Would anyone—for example, you—audit the risk management plan?

Mr McPhee—We would absolutely look at the risk management plan that the department has put in place. As we often say, risk management has gone from being discretionary to being mandatory, particularly with major projects but also at the entity level as well. We would absolutely look at the comprehensiveness of the plan and the extent to which it was monitored as the process evolves.

CHAIR—You say you would absolutely; what would be the trigger for that? What would get that report in front of you?

Mr McPhee—Despite the varied subject matters we look at, we have a fairly standard approach to auditing, and that is to look at the governance arrangements, at the risk management, at the score keeping and at how variations to expected performance are managed. We have a fairly traditional management view of agencies, whether we are looking at major projects or at

their management of a program. So, for that reason, risk management generally features in our work.

CHAIR—The very existence of that plan by a government department means you would get your dibs on it?

Mr McPhee—We could get our dibs on it because we have access powers under the act and because it is a central part of management today. So we would look at that.

CHAIR—When would you look at that in respect of the NBN?

Mr McPhee—If we were doing work in the NBN area we would look at that and see how risk is managed by the entity, but we do not do a universal search for risk management plans; we do it on an audit topic basis.

CHAIR—In respect of the NBN, when would you envisage that that might happen?

Mr McPhee—We have not programmed an audit of the new NBN.

CHAIR—How would we get it programmed if we wanted it to be so?

Mr McPhee—Clearly, in the past, committees have requested the Auditor-General to consider that or have provided us feedback as part of our annual audit planning processes.

CHAIR—Clearly, from what you have said—and this is going to be my final question—it is open to committees such as this to recommend topics that you might factor into your forward audit program?

Mr McPhee—Absolutely correct.

CHAIR—We will consider that as an invitation. On that note, thank you, Auditor-General et al.

Mr McPhee—Thank you; our pleasure.

Committee adjourned at 5.30 pm