



COMMONWEALTH OF AUSTRALIA

# Official Committee Hansard

## SENATE

SELECT COMMITTEE ON THE NATIONAL BROADBAND  
NETWORK

**Reference: Implications of the proposed National Broadband Network**

FRIDAY, 4 JUNE 2010

CANBERRA

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

**Friday, 4 June 2010**

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

**Senators in attendance:** Senators Fisher, Ludlam, Lundy and Macdonald

**Participating members:** Senators Abetz, Adams, Back, Barnett, Bernardi, 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.

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**Committee met at 9.36 am****ERGAS, Professor Henry, Private capacity****HARRISON, Dr Mark Douglas, Private capacity**

**CHAIR (Senator Ian Macdonald)**—I declare open this public hearing of the Senate Select Committee on the National Broadband Network. The committee's proceedings follow the program that has been circulated and these are public proceedings. The committee hearings are covered by parliamentary privilege. There are other rules and regulations, but I know Professor Ergas has appeared before a number of committee hearings and is fairly familiar with them, without me having to go through them.

I have confirmed with my committee members that we are happy for Dr Harrison to be here as well, and I assume that, where questions or approaches come to your area of expertise, which we will find out about shortly, you will interpose with Professor Ergas and you will work together. Is that how you intended to do it?

**Prof. Ergas**—Yes.

**CHAIR**—The committee is happy with that approach. Dr Harrison, have you been before Senate committees before?

**Dr Harrison**—No, this is my first time.

**CHAIR**—Perhaps I should say to you that these hearings are protected by parliamentary privilege. If there is anything that you want to say that you think might be better said privately in camera, you can make that request of the committee. The committee will consider the request and determine whether we can do that.

I thank Professor Ergas for coming back. We have had the benefit of your expertise before. You will also note that in our fourth interim report we quoted some things that you had said publicly, and as I have mentioned to you privately, we gave the department and NBN Co. selected excerpts of things that were in public comments that you and a number of other analysts and experts had said and asked the department and NBN Co., as the case may be, to respond, which they have. I have provided you with a copy of those responses this morning and in the course of your presentation perhaps you might like to respond to their response, if you feel so inclined. Alternatively, some of the committee members may question you in relation to your comments, the department's response and what you might say to it, but we will deal with that as we move along.

Unfortunately at the end of Senate estimates week all senators are committed out. We are a bit slow in starting, and I apologise for that as well. Senator Fisher will be here very shortly to complete the committee, but we are a quorum.

With that, I might ask if you have some opening comments. This particular hearing of the NBN select committee was more or less engaged with respect to the implementation study. We

are very keen to get evidence on the implementation study. That is what we are principally interested in. Do you have some opening comments?

**Prof. Ergas**—Thank you for asking me to appear in front of you. I should say at the outset that I have, over the years, provided advice on a consulting basis to a number of entities that are affected, one way or the other, by the proposed National Broadband Network. However, I am appearing here in a strictly personal capacity and any views I may express are entirely my own and should not be imputed to any current or former clients.

I am joined today by Dr Mark Harrison who, like me, is an economic consultant. Dr Harrison is also appearing strictly in a personal capacity today. I thought it would be useful for Dr Harrison to be present at today's proceedings because Dr Harrison is an authority on the issue of discount rates and the cost of capital to the public sector and is the author of the Productivity Commission study that looks at the issue of the appropriate selection of a discount rate for public sector projects, the NBN obviously being such a public sector project.

With those preliminaries, I will make a few brief introductory remarks. My first remark goes to the implementation study, itself. As I have said in my published material, some of which you have been kind enough to cite, I believe that the implementation study is a useful piece of work and in many respects a very careful piece of work. That does not mean that I agree with everything in it, and there is a great deal that one could discuss and argue about. Taking that as given, I think the implementation study team has obviously done a very careful piece of work in trying to look at the issues involved in implementing the NBN proposal.

The first point of substance I would make is that I believe it would be highly desirable for the detailed workings that underpin the results that are presented in the implementation study to be public. It is often very difficult in reading the report to understand precisely what has been done and why it has been done that way. I cannot imagine that there are significant issues of commercial confidentiality and, to the extent to which there are such issues, they could be dealt with by requiring those having access to confidential information to fill in the appropriate undertakings or to commit to the appropriate confidentiality undertakings. Having access to the underlying material would be helpful in both assessing the implementation study and coming to a more well-founded assessment of its strengths and weaknesses, but also in terms of informing the broader public debate. As a result, I would urge the committee to do all it can to ensure that the detailed workings that underpin this study are made public in a timely and comprehensive way.

Turning now to the substance of the study, as I have said in my published commentary, the study makes a number of assumptions that seem to me optimistic. It is very difficult to test those assumptions without access to the detailed workings, but as best as one can tell from the summary that is given in the report, there are a number of areas where the study team's approach is rather optimistic in terms of the prospects for NBN Co. One area that I have signalled in that respect, and it is not the only one, is the assumptions with respect to price trends over time. The study, as you know, assumes that prices that are received by NBN Co. for its services increase steadily and continuously over time. That, of course, is in complete contrast to the experience of Australian telecommunications over the period from the 1980s to the present and is also in contrast to the experience internationally, as well as to current trends.



I note that the response that you have received to those comments about price assumptions from the department and NBN Co. points out that the assumption of increasing prices over time reflects a mix of factors, in particular there is an assumption that over time NBN Co. will be selling a progressively higher speed or otherwise higher price range of services, so there is some change in the composition of the services it sells, but also that prices across the board will be increasing. That is entirely correct, but the study itself is very cautious in terms of the prospects for the composition of NBN Co. services to change to higher priced services over time. It cautions against assuming that such upgrading will occur or that it will occur at any point early in the deployment and operation of the new network. As a result, in terms of the factors that affect the commercial and broader economic liability of the new network, one has to assume that the bulk of the work, in terms of the per-unit revenue change, comes from this pure increase in prices over time. Again, it would be highly desirable for NBN Co. or the department to disclose the detailed workings that underpin those price projections so that analysts can look at whether those projections are in fact reasonable.

Even with all of those assumptions the study concludes that the internal rate of return for NBN Co. will be about equal to the government bond rate. There are a number of issues that one can raise in that respect. There are some technical problems with the way the study proceeds and I believe this is, indeed, a flaw or an error that the study has made, that it uses essentially the bond rate as the cost of funds or it seems to suggest that the bond rate is the cost of funds and then it uses a nine per cent discount factor in evaluating choices of technologies. No explanation is given, either in the study itself or in the response, of that apparent inconsistency and the response does not seem to understand that that is a problematic aspect of the study. But, even putting that aside, the response then says in defence of this result that the internal rate of return on NBN Co. will be barely equal to the bond rate. It says in defence of that result that the bond rate is the cost of funds that is relevant to the government.

**CHAIR**—Just so that we are all on the same page, where are you?

**Prof. Ergas**—In the response at page 11.

**CHAIR**—Under which heading?

**Prof. Ergas**—Under the heading ‘Commercial Viability’. The study notes the projected return is about the government’s costs of funds. The response then goes on to say that the government considers the additional benefits et cetera are sufficient to justify taxpayers not receiving a premium for project risk.

In the statement there are at least two significant errors. The first is the assumption that the projected return—that is, the bond rate—is the government’s cost of funds. They cite no rationale for that, and Dr Harrison may want to comment on that. Second, the response seems confused in that it appears to assume that additional benefits alter the required cost of capital to a project, not its overall commercial viability or economic viability more broadly. In other words what they seem to be saying here is that, because there are these additional benefits, it is appropriate to use a low discount rate. That is a confusion between the discount rate and what it is you are discounting. The benefits go to what it is you are discounting. The discount rate is not affected by those benefits, or only very indirectly affected by those benefits.

The bottom line on that is that the bond rate does not reflect the opportunity cost of capital to the public sector. I do not believe there is any substantial dispute, even academic dispute, as the response suggests in that respect. That raises the question of whether this project is worth proceeding with.

In the comments that I and others have published in respect of the implementation study we note that using the bond rate as the cost of capital breaches the competitive neutrality guidelines and breaches the guidelines for government business enterprises. It is clear that the response paper does not in any way address those comments. It does not dispute that fact, which I believe is recognised also by the implementation study.

The first point that comes out of this is that the implementation study, even on the basis of optimistic assumptions, finds a rate of return that is well below the cost of funds. That suggests that the project is, simply put, not commercially viable. That has implications for the budgetary treatment of this project. In particular I would contend that the project fails the criteria that are set out at page 381 of the study for a project to be regarded as market operator and hence be classed as a public non-financial corporation for ABS and budgetary reporting purposes.

There is a subsidy element that is very substantial in this project and that subsidy element should be transparently disclosed in the budget as and when it is incurred. Let me make a final point which is this: when I first appeared in front of this committee it was on the issue of cost-benefit appraisal of this project. At the time the government's approach and the response that I know you had in evidence from departmental officials was that it was not possible to carry out a cost-benefit appraisal because such cost-benefit appraisal would require making a number of assumptions about costs, demand and revenue. We now have the results. The government has spent \$25 million, or its claimed \$27 million, doing a very detailed study that provides exactly the information required for a cost-benefit appraisal. Given access to that information, it would be a matter of days to complete the cost-benefit appraisal of the project. That cost-benefit appraisal could be done strictly on the basis of the assumptions that underpin this implementation study.

I would therefore suggest that, if the government is willing to disclose the information and the detailed workings that underpin this study, I would be happy to use those in the model that we already have in place to generate a cost-benefit appraisal at no cost to the taxpayer. All that is required is that we be given access to the underlying workings. If, for whatever reasons, the government does not want to do that, there are many people in government and in the major departments who are capable of taking these results and transforming them into a cost-benefit appraisal of the project. I see no reason whatsoever why Treasury or Finance could not undertake such a cost-benefit appraisal now that the information required is fully available and indeed has been paid for by the taxpayer.

**CHAIR**—That is a very interesting and, might I say, generous offer. You said that, given the information that the information study found or the assumptions on costing, it would take a matter of days—I think you said—to do a proper cost-benefit analysis using a model which you have. I always struggle when talking about models. What model are you talking about? Is it a model that is recognised by others as being the right model? Can you just elaborate a bit more on that?

**Prof. Ergas**—As you know, in a paper with a colleague prepared for the Productivity Commission symposium I undertook a cost-benefit appraisal of the NBN going on the basis of the information that was available then and a number of estimates that we developed and that paper has now been published by the Productivity Commission. We already have the modelling framework in place and what would be involved is to populate that framework with the results that come out of the implementation study. We would obviously be happy to make our own workings available publicly for others to assess and, if they find difficulties with them, to critique.

We have that modelling framework and that is the absolutely conventional modelling framework that is used for a cost-benefit appraisal and that is consistent with the department of finance's guidelines on cost-benefit appraisal.

**CHAIR**—Suggesting that the ACCC has published it does not necessarily mean the ACCC agrees with it.

**Prof. Ergas**—No, I am sorry; it is the Productivity Commission. There is certainly no inference that the Productivity Commissioner has endorsed it.

**CHAIR**—But clearly the Productivity Commission would not be publishing any work based on modelling that was clearly not acceptable. This is a question most of us this side of the table struggle with when it comes to modelling. I should not, perhaps, speak for Senator Lundy, but I do. How would critics of your work assess your model?

**Prof. Ergas**—The only commentary, really, that we have had in respect of our model is that there is some disagreement about the underlying assumptions—in particular about take-up of the service—but not really about the structure of the modelling as such.

**CHAIR**—But you are saying that using the assumptions in the implementation study would correct that criticism.

**Prof. Ergas**—Absolutely.

**CHAIR**—Are you serious about a matter of days?

**Prof. Ergas**—Yes. Obviously for that to be the case it requires that the information is provided in a form that is understandable, readily documented and easily usable as long as—

**CHAIR**—It must be there if the implementation study has used it.

**Prof. Ergas**—Well, it did.

**CHAIR**—You also said that if your, I will say, generous offer is not taken up by the government—and I would be interested to hear why they would not take it up as it is not going to cost anyone anything except you for your time and expertise—Treasury or Finance or anyone else could also do a cost-benefit analysis relatively quickly using the assumptions that are clearly available because they have been used in the implementation study. Is that what you are saying?

**Prof. Ergas**—Yes. You would have to make some additional assumptions but most of those could be based on the more detailed workings in the implementation study. There is obviously room to argue about exactly where those detailed assumptions would come out, but again one would normally do sensitivity tests that would allow one to encompass a range around those assumptions and to look at the sensitivity of the results to those assumptions. But there is no doubt, to my mind, that the departments of Treasury and finance would have the in-house capability to undertake such a study on the basis of the very detailed material that has been produced for the implementation report.

**CHAIR**—Would McKinsey-KPMG be capable of doing that, bearing in mind that they made it quite clear in their implementation study that—dot point—‘This is not a cost-benefit analysis because we have been asked not to do it, or we have not been asked to do it.’ I am not sure which, but they made it clear this was not a cost-benefit analysis. Are McKinsey-KPMG the sort of people who could do a cost-benefit analysis within—quoting you again—a matter of days?

**Prof. Ergas**—I am afraid I would not know really for a fact what McKinsey’s capabilities are in that respect, but there is no doubt that KPMG undertake a wide range of cost-benefit appraisals in many different areas, so they too would have the internal expertise required to undertake such a cost-benefit study.

**CHAIR**—Dr Harrison, could you just start. Senator Ludlam has joined us. You might, just for his benefit, explain who and what you are.

**Dr Harrison**—I am an economist.

**CHAIR**—Please, when you are talking about discount rates and internal rates of return, can you assume—in my case quite correctly—that we really do not know a lot about it, so you might have to sort of go back to Economics 101 just to, in a one-liner, tell us exactly what you mean by discount rates and so on. Over to you, Dr Harrison.

**Dr Harrison**—I emphasise that I am appearing as a private individual and an economist. I have been an academic, a public servant and a consultant, but most relevantly, from May 2007 to May 2009, I was visiting researcher at the Productivity Commission, where among the things I did was to write the comprehensive paper on the social discount rate in cost-benefit analysis—in other words, ‘What discount rate should the government be using to evaluate its projects?’ What the study does is calculate an internal rate of return of six to seven per cent and then compares that with the government bond rate and calls that the government’s cost of funds. The problem with that is that the government bond rate is not the cost to the taxpayer or to society. Really, how you finance a project does not affect the project risk. The project has certain risks; they are there, they have a cost and someone has to bear them. Financing is about who bears those risks and so when the government finances it, basically, the risk is thrown onto the taxpayer. If the project makes a loss, it is going to be the taxpayer that has to step in and make up the difference.

The government bond rate takes no account of that risk that is imposed on taxpayers. The government can sell bonds at a rate of five per cent because payment is guaranteed by the taxpayer but, when they finance this project, who picks up the cost of losses on the project? It is the taxpayer. The private risk premium indicates the cost of risk—what people have to be paid to

bear it—and that is why the private return is above the government bond rate, because it includes a premium which accounts for the cost of the risks imposed on investors in the project.

As for the social cost, that is really about opportunity cost and the point is that when we finance these projects we are crowding out private investment that has a higher return. In Australia, a conservative estimate of the return to the average private investment is nine per cent real—so about 12 per cent nominal, or more—and certainly over the last decade it has been much more; it has been about 11 or 12 per cent real. That is the average private investment and the point is that with this money, if we invested it in the private sector in a project with the same risk, we would earn that higher return. For a project of average risk we would earn 11 or 12 per cent real over the past decade, but on an average, say, nine per cent would be a conservative estimate. For more risky projects you get a higher return to compensate you for that extra risk; for less risky projects, a lower return.

The opportunity cost of investing in the NBN is that we are forgoing private investments with a much higher return. The cost of capital should reflect that and the bond rate does not reflect the foregone investments, the investments we are giving up in order to invest in this project.

**CHAIR**—Sorry, can I just interpose there. If someone were lending money at the bond rate but knowing that the government—that is, the taxpayer—was going to guarantee it and you would be absolutely certain you would get your six per cent, for an investor is that not sufficient—that there is really no risk? I mean, even if the whole thing falls over and collapses in a heap of dust, they will still get their money back plus six per cent.

**Dr Harrison**—Yes, because the person who is buying the bonds, yes, gets a government guarantee and that is why they are willing to lend at five per cent. My point is that that has nothing to do with the project risk. The project is very risky and someone has to bear it and it is the taxpayers—the owners of the project—that bear that risk. It is completely independent. The financing of it, which is just the buying and selling of bonds; has nothing to do with the real risk imposed by the project. So taking the bond rate ignores this risk that is borne by someone, and it is borne by the taxpayer.

**CHAIR**—You are saying that, if the government were not involved in this, the cost of money would be 11 per cent, 12 per cent or perhaps 20 per cent?

**Dr Harrison**—Then the investors in the project would bear that risk and they would require a premium to compensate them for it. If we finance this project privately, it would cost much more than five per cent and that would reflect all the costs of the project to the owners, including the risk cost, and they have to take account of what they could get with their money in alternative opportunities.

**CHAIR**—And you are saying that competitive neutrality principles and the government's own public sector funding require them to be borrowing at the real rate?

**Dr Harrison**—Because the taxpayers guarantee these things, they borrow at whatever rate—you know, five per cent—but when they are evaluating their projects they should evaluate them with all the costs that are imposed on society.

**CHAIR**—Yes. All right. Did I interrupt you?

**Dr Harrison**—I was just going to talk about the Department of Finance and Deregulation response, which says:

The government considers the additional benefits to the economy and society accruing from the NBN are sufficient to justify taxpayers not receiving a premium for project risk.

**CHAIR**—Can you just—

**Dr Harrison**—That is on page 11 of the response.

**CHAIR**—Under ‘Commercial Viability’?

**Dr Harrison**—Yes, that is right. It is the second paragraph. The great thing about cost-benefit analysis is that it makes the methodology and the assumptions all clear and explicit and then you can argue about them—you know, Professor Ergas assumed this; someone else assumed something different. You can argue about which is a more realistic assumption and it makes it all very transparent. Also, the assumptions you make along the way are very transparent. That response is very confused. It is saying that we can get some unmeasured, unproven benefits to the economy and somehow use them to reduce the discount rate, whereas, if you did it properly, you would take account of all the costs and benefits, you would try to measure those benefits to society, you would also try to measure the cost of the risk that the project is imposing on society and then you would compare them. You know, the cost-benefit analysis is about weighing up those costs and benefits.

Perhaps it is true that these external benefits would justify the project, but you would not do it by lowering the discount rate. That is about valuing dollars in the future compared to dollars now—nothing to do with the external effects of the project. We should measure these external effects and then, when they accrue in the future, discount them at the appropriate discount rate. There is no way you should adjust the discount rate as some sort of ad hoc way of taking account of these external benefits, because that is a very particular way of doing that. The lower the discount rate, the higher the value of future dollars, and there is no reason why that trade-off is relevant for the external benefits that come from this project.

**CHAIR**—In reality, clearly the government is saying: ‘Well, we mightn’t have the funds right, but it is going to be such a great thing for Australia and everyone will have 100 megabits per second right around Australia, no matter where you live, except if you happen to live in the seven per cent, and that is such a good thing for Australia and it has so many benefits otherwise; forget about the cost. This is a good thing for Australia, so let’s go ahead.’

**Dr Harrison**—That is exactly what should be tested in the cost-benefit study. That is the point; you can say that, but showing it is another thing. The question is: let us try to get estimates of these benefits and see whether they do justify the cost. The cost should be properly measured, which includes the cost of capital and which includes the cost of risks imposed on taxpayers; then you can weigh them up. In essence they claim they know the results of the cost-benefit study without ever doing it.

**CHAIR**—Okay, but in effect, would the government not argue, ‘Look, this might be all okay in academia and with economists arguing about this, but the mere fact of the matter is we are getting this great asset for Australia, we are going to pay for it by borrowing’—these are my terminologies, but you know—‘at six per cent and people will lend to us because they know we are the government and we are going to pay them back’? There is all this talk about forgone risks, forgone costs or costs that should have been; so what? What is the relevance of all that?

**Dr Harrison**—Usually, when you undertake a project in the private or the public sector, you want to know: is there a net benefit? Do the benefits exceed the cost? If it is so obvious, that should be very easy to show in a cost-benefit analysis. I am saying they have presumed the results of the analysis that has not been done.

**CHAIR**—Going back to Professor Ergas’s generous offer, within three days—or perhaps a little longer—once you have got the material you would know whether the concerns—

**Dr Harrison**—I have a feeling I am going to be doing this.

**CHAIR**—So it is your generous offer, not Professor Ergas’s.

**Prof. Ergas**—It merely makes my offer all the more generous.

**CHAIR**—It very much does. We could know all this and put it to bed. I mean, if the government is right, in three days they could prove to the world that all of the critics are all wrong and that they are right; is that right?

**Dr Harrison**—You could produce a cost-benefit study and its value would depend on the assumptions that went into it, but they would be very clear, you know, and then we could say—

**CHAIR**—But Professor Ergas has said that the assumptions are already in the implementation study.

**Prof. Ergas**—You could take the results of the implementation study. It seems to me that it is important to distinguish two things: what the implementation study tried to do and then the broader question of the wider desirability, or otherwise, of this project. As I understood what the implementation study tried to do, it sought to look at the commercial viability of NBN Co. To look at the commercial viability of NBN Co., it is obviously important to value risk at the rate at which risk would need to be remunerated where there is a commercial project. The study is mindful of that and at pages that begin at about page 410 of the report it looks at what a required rate of return would be for the project were it undertaken in the private sector. It finds that that required rate of return is far higher than the bond rate—probably double the bond rate. So, if you are focused on commercial viability, the project does not seem to meet that test, at least on the basis of the analysis that has been done by the McKinsey-KPMG team.

A project may not be commercially viable but may still be socially worthwhile. It may be desirable because of its broader implications for the wellbeing and welfare of Australians. That is a perfectly legitimate motive for governments to undertake projects and is a motive that may apply, at least conceivably, in this case. We also recognise that we live in a world of scarce resources and that government cannot undertake every conceivable project that it might wish to

undertake. When government funds are used for one purpose rather than another, that has an opportunity cost, because government itself is constrained and because when government borrows or takes resources, and when government spends those resources, they are not available for use elsewhere in the economy; that itself has a very significant opportunity cost.

Over the years, we have had a universal acceptance by successive governments in this country that the proper way to assess whether a project will indeed merit the use of scarce government resources is by undertaking a proper cost-benefit appraisal. That is not what the implementation team was asked to do; it is not what they have done, but it would certainly be possible—indeed, readily possible—on the basis of the very detailed information that they have clearly generated to undertake such a study and to thus come to a more robustly based and transparently contestable view as to whether the benefits from this proposed National Broadband Network exceed its opportunity costs.

**Senator LUNDY**—I heard the Business Council of Australia the other morning on radio raise this issue of why it was important, in their view, that the NBN project be assessed on purely commercial terms. Dr Harrison, have you taken any inspiration or are you familiar with the Business Council's exhortations in relation to this over the last few days?

**Dr Harrison**—No, I have not.

**Senator LUNDY**—I am interested in the purity of the argument, given that the government was able to test the market with an expressions of interest process and, with the market failing to respond and a range of other factors, it is determined to press ahead with what the government sees as a very important economic infrastructure. The government certainly believes, as Professor Ergas points out, that it is socially worthwhile. Why do you contend that the test needs to be rigidly associated with what could be deemed a commercial viability test, in pressing forward, if there is a very strong political view that there are externalities, social and economic benefits, that were incapable of being serviced by that higher rate of return demanded by the commercial markets?

**Dr Harrison**—You are misinterpreting what I said. I never said that you had to have commercial viability. We were pointing out that on its own report it apparently does not have commercial viability. If there are social benefits that still justify, more than offset, the commercial losses that we expect on this then it would be worth going ahead, but asserting them is not proving them. I think it would be prudent to check whether it really is worth going ahead. It is a very costly policy. Would the money be better spent elsewhere? There are lots of things you can do.

**Senator LUNDY**—I will come back to the money being spent elsewhere. In saying that you should prove it first, how can you prove it in the absence of a high-bandwidth network and activity taking place?

**Dr Harrison**—To the best of our ability we estimate what the costs and benefits of this project will be to assess whether it is worth going ahead. With your best-practice regulation, guidelines and so on, all throughout government policy making it is considered a good idea, for a relatively low cost, to assess these things in advance to see if they are worth going ahead with,



rather than just asserting that there are social benefits from them. There are social benefits, but the question is: are they big enough to offset the cost of doing this?

**Senator LUNDY**—Do you think they are?

**Dr Harrison**—I do not know. I have not done the cost-benefit analysis.

**CHAIR**—But you could in three days.

**Dr Harrison**—They would have to be very large to offset the substantial cost of doing it. Maybe it does not sound plausible that they are that large.

**Senator LUNDY**—I am familiar with a range of reports over many years that show that the economies that have been investing in information and communications technologies tend to be the fastest growth economies—certainly prior to the GFC. Does that count?

**Dr Harrison**—When you do the cost-benefit study, you have to have your best estimate of the kinds of benefits it results in, and that would be a benefit. There is some question as to what the causation is and whether the richer economies buy more IT equipment—

**Senator LUNDY**—Let us talk about multifactor productivity associated with the higher use of ICTs. Would that be something, given that there is plenty of evidence of that? There are plenty of reports published about the association with multifactor productivity and the extensive use of ICTs. That evidence is out there.

**Dr Harrison**—Good cost-benefits would take account of all of this evidence and weigh it up. As I said, the advantage is that it is not just hand waving. It is saying, ‘We are assuming X and Y and these are the benefits we expect.’

**Senator LUNDY**—Where I am at a bit of a loss is in response to the opposition’s claims that somehow, in the absence of this formal cost-benefit analysis, it is flawed. I have been reading these reports and international research studies showing the economic and social benefits of investment in that, so there is a reasonable base level of knowledge and understanding that I think informs the policy overall and why, at one point at least in the not-too-distant past, there was universal agreement that a universal high-bandwidth network for Australia was a positive thing. That has changed. We now have an opposition saying that they are not going to support it and economists like you and Professor Ergas coming out and saying, ‘We shouldn’t make the investment on the basis that there isn’t a cost-benefit analysis available for perusal, because there might just be another infrastructure investment that might return more benefit to the Australian people.’ That seems to be the substance of your presentation.

**Dr Harrison**—No, that is not it. No doubt there are benefits, but how big are they? You say it raises multifactor productivity. Is it by 0.1 per cent or 0.2 per cent? What does it have to be to justify this project? The key thing in the cost-benefit study is: what are the counterfactuals? Basically we are predicting the future; that is why it is so hard. To work out the costs and benefits of the project we would need to say what would happen without the project and what would happen with the project, and the difference is the cost and benefits of the project. That is very difficult to do because you need to predict the future. At least, with the cost-benefit study,

we can have our predictions about the future. Your prediction might be that, if we do not do this, we are never going to have the investment in broadband technology that you think the economy needs. That is one assumption.

**Senator LUNDY**—We know that because we tested the market. We already know that one.

**Dr Harrison**—I do not think that anyone thinks that it will stay at the current levels forever. There is wireless technology developing and all sorts of other things. Predicting the future is hard, but the good thing about a formal analysis is that we can make those predictions explicit and determine how much you want to rely on them, how reliable they are and what the risks of entering this project are and so on. It is good-practice policy making to try to weigh up the cost and benefits of things before you do them.

**CHAIR**—With the assumptions that you have got from the implementation study, three days of work and a generous offer by you, you could have the cost-benefit analysis done.

**Dr Harrison**—They obviously have some prediction about the future in there to come up with their numbers.

**CHAIR**—If the government is so certain about the benefits, why would they not jump at your very generous offer?

**Senator LUNDY**—Why not just do it for the public good?

**CHAIR**—They need the assumptions from the implementation study.

**Prof. Ergas**—The detailed results.

**CHAIR**—That is the first point.

**Dr Harrison**—Professor Ergas did one as a public good. As I said, it is hard to predict the future. This study has one prediction and it would be useful to get the details on what they are.

**CHAIR**—To feed that into the cost-benefits?

**Dr Harrison**—Yes.

**Senator LUNDY**—Just going to the spectre of an alternative investment, given that we are talking about peak capital funding of around \$26 billion estimated in the implementation study, and for that debt to be serviced by the subsequent profitability of NBN Co., what, under that model of financing infrastructure, can you point to as alternative worthy investments that ought to be considered?

**Dr Harrison**—When you draw this money from the capital market you crowd out private investment. Who knows where it comes from? But we know that, on average, it has a very high rate of return. Nine per cent real would be a very conservative estimate of what we are giving up when we crowd out private investment to have more government investment. That is the cost of the government project and the benefits from it should exceed that cost.

**Senator LUNDY**—Given that the market failed to respond—the market had an opportunity to respond to the government’s needs with respect to the policy to build a national broadband network—the implementation study shows that the rate of return, as you say, is around the bond rate. I am not clear as to why you contend that it is some kind of reasonable test for government that this project return the commercial rate of investment. It may have been what Professor Ergas, rather than you, was pointing out, but I am at a loss as to why NBN Co. would need to sit that test, given that the policy is on the back of market failure and the incapacity of telecommunications companies around the world to determine that they could make this investment.

**Dr Harrison**—Market failure is a necessary condition for the government to be involved, but it is not sufficient. It shows that there is a potential gain from government involvement, but the question is: is there an actual gain? What exactly are the benefits from doing this? You can say that it is not commercially viable then the private sector will not do it, but then the question is: should the government step in, and do the benefits outweigh the costs of doing this?

**Senator LUNDY**—You are ignoring a really important fact, and that is that private companies who expressed an interest and participated, albeit in varying degrees of effectiveness, in the expressions of interest request for information process demanded things like access holidays in the regulatory environment to justify their investment. Again, that signals from the market that, yes, they would make the investment if they were provided with the sort of access holidays that allowed them to, firstly, manipulate market structure and, secondly, guarantee a rate of return. That implies that in a commercial environment, if there were regulatory distortion in the market, there would be a private investment. The government is uncompromising in the purity of the market structure model under NBN Co. Does that not account for something and start to impact on the preconditions as to why the long bond rate return of investment is entirely reasonable in the context of this policy going forward? Would you as an economist, and perhaps Professor Ergas as well, ever argue that we ought to compromise on the open access nature and the separation of the wholesale and retail aspects of the broadband market in exchange for private investment over public investment? You would not argue that, would you?

**Dr Harrison**—I would say that you would weigh up the costs and benefits of doing that.

**Senator LUNDY**—You would not argue that. Professor Ergas, you would not argue that, would you? You would not compromise market structure and having an appropriately framed competitive regime in the telecommunications market just to boost the return of whoever the investor was, would you?

**Prof. Ergas**—The issue is still whether the benefits from this project, whatever those benefits may be and however widely they might be cast, exceed its costs.

**Senator LUNDY**—No. We know the market would invest if they could get a commercial rate of return. They cannot, because to get that they would have demanded a manipulation of the regulatory environment and get some kind of access holiday. We have a government, through public policy, saying, ‘We think this is a good thing,’ and we have talked about some of the measures that you would want to bring into that. You have the market saying, ‘We would invest in this if we can get a guaranteed commercial rate of return.’ Surely a long bond rate of return and purity of market structure to guarantee competitive tension in the market, which plays out on

a whole raft of other economic measures and features of telecommunications in this country, is a reasonable place to set your public policy.

**Dr Harrison**—The whole point of what I was saying is that the government bond rate is not relevant for assessing the costs of this project. It is not the cost of capital to the taxpayers or to society. I come back to the point that it is a cost that you have to take account of. There are benefits. You say they are big, but are they big enough to outweigh the costs? That is the issue.

**Prof. Ergas**—You seem to assume that there is a need for a major national project of this kind—

**Senator LUNDY**—Absolutely. I am working from that assumption.

**Prof. Ergas**—and then, given that need, you go on to assume that the optimal form of that project is this particular project. Even if you accepted your initial assumption, which may or may not be correct—

**Senator LUNDY**—We can discuss that.

**Prof. Ergas**—the point would still be that what you would need to do is to look at the benefits and costs of the alternative options in a systematic and transparent way. You go on to assume that one of the particular benefits of this option is that this option allows you to have a more procompetitive market structure than might otherwise occur. Even if you accepted that assumption—and it is merely an assumption, and the implementation report has the detailed discussion of a number of the problems associated with the assumption you made—you would still have to say to yourself: ‘Assuming that what I want is to have the open, competitive environment with whatever regulatory arrangements that in turn requires, and assuming also that if I tried to have an alternative network built on a purely commercial basis, such as some kind of fibre-to-the-node network as against this fibre-to-the-premises network, the only way it could be commercially viable would be if I compromised on that objective.’ You would still need to say to yourself, ‘How much would it cost to get an alternative environment—say, this fibre-to-the-node project—undertaken in a way that was consistent with that open, competitive framework, compared to how much it will cost taxpayers to get that open, competitive environment in this FTTP, or fibre-to-the-premises, project that is the National Broadband Network?’

In other words, if your objective is to have an open, competitive environment, you need to do two things. First, you need to assess the costs and benefits of having such an environment, and it may well be that the benefits of such an environment outweigh its costs. Second, you need to find the least net socially costly way of achieving that objective. It is by no means obvious that that least net socially costly way is this particular project. Until you have done that work, everything else would unfortunately not really be much more than mere assertion.

**Senator LUNDY**—I want to go back to Professor Ergas, with the point that he makes about making assumptions that the nature of the investment comes after a decade’s worth of commentary, critique and analysis of the failings of the existing environment in telecommunications. What you appear to be contending now is that it is not just a cost-benefit analysis of the fibre-to-the-premise network; you are challenging the very assumption, or you are raising the spectre of challenging the assumption, that we need a universal high-bandwidth

network for Australia. Can I just clarify for the purpose of your evidence whether or not you believe it is the right public policy direction to be pursuing a universal high-bandwidth fibre—specifically fibre-to-the-premises—network or not. Do you think that there is a better model, or are you not convinced that that is the best public policy at the moment?

**Prof. Ergas**—Let me merely echo a number of points that are made—and I think well made—in the implementation study. The implementation study notes that in fact the current environment has deliberate, relatively high-speed service to a very wide range of both business and residential consumers. It goes to some length to emphasise that the prices associated with those services have been reasonable, and it notes that there are a number of developments underway that would lead to the quality, range and affordability of those services continuing to improve over time. The implementation study itself is very far from suggesting that there is any comprehensive failure in the current telecommunications environment. That said, my own view—

**Senator LUNDY**—Can I say that that is the most optimistic interpretation of the implementation study's assessment of the current telecommunications regime I have heard. It is very selective.

**Prof. Ergas**—That may be, but I am happy to provide the direct quotes from—

**Senator LUNDY**—If they are there, I think I need to make this point: the overall context of the implementation study's assessment is that important fact that we do pay one of the highest costs for the bandwidth that we currently get, particularly through ADSL services, in the world.

**Prof. Ergas**—I am happy to trade citations from the implementation study, but my point is—

**Senator LUNDY**—Well, you started it.

**Prof. Ergas**—that the implementation study is, I think, relatively clear in its assessment of the current telecommunications environment, but that does not mean that there are no problems with that environment. My own longstanding view has been that there are such problems and that those problems do then translate into adverse implications for investment and for the upgrading of that network over time. What I am not convinced of is that the appropriate solution to those problems is to effectively have the government build an entirely new, very high-cost network without testing that through proper appraisal both commercially and in cost-benefit terms. Insofar as I can tell on the basis of the work that I have done, if you subject the proposal to that type of analysis then it does not withstand the analysis because the costs of the proposal seem to greatly outweigh its benefits. It may be that the more detailed work that has been done by the implementation study would lead me and others to change our minds, but it is impossible to tell that without access to those detailed workings.

**CHAIR**—And that is where you started.

**Senator LUDLAM**—I have only one question. I suppose it is a variant of what I asked you last time you were with one of these committees. It is relatively easy to estimate the costs of such a project, particularly now that we have a bit more of the detail of the implementation study, but how on earth do you estimate the benefits of a network such as this, particularly when

the benefits are non-monetary? My understanding of the cost-benefit analysis is that you need to imagine or predict the future, as you put it, benefits of the network to be used for things that do not exist yet because the network does not exist and then come up with a monetary value for those things and balance that against the costs. There is a whole range of quite complicated assumptions that need to be put in there for that kind of model to work. From everything I have seen, you end up with another range of assertions that happen to be backed up by a complex set of assumptions that are actually quite difficult to interrogate. What would the value actually be of such an analysis? What would it tell us?

**Prof. Ergas**—As Dr Harrison said, all cost-benefit analysis is an exercise in projecting and attempting to evaluate the future. All cost-benefit appraisal requires the comparison of future options—that is, the world with the project compared to the world without the project. As you rightly point out, in undertaking that assessment it is important to have a metric in terms of which to evaluate the benefits and a set of projections as to what those benefits might be. The way we, as economists, approach that is essentially through the willingness of the community to pay for the benefits that the project will create. That willingness to pay in some cases may be the monetary willingness of individuals to pay to buy services from the project, or in other cases valuations that society places on indirect or wider benefits a project will create.

What is helpful about the implementation study is that it has apparently, as best one could tell from the summary, looked in very considerable detail at what the likely use of the network may be over time and how that use translates also into willingness to pay for its services and hence in the underlying valuation of those services. Because it does that right across the board for residential and business use and also public sector use of the project, that should provide a firm basis on which to undertake that evaluation of benefits.

That is not to say that you will not require some additional assumptions to do that or that the valuation that you come up with of those benefits will be by any means a certainty. There are a wide range of uncertainties that are involved and I think the study is quite frank in its recognition of those uncertainties. But they have put an enormous amount of effort into trying to get that right. It seems to me that it would be an enormous shame and a departure from good public policy for all of that work to be excluded from informing a proper cost-benefit appraisal. It would be an enormous waste of the \$25 million or \$27 million that taxpayers have paid for this study.

**Dr Harrison**—Could I just add that as a practitioner I am a big believer that good public policy evaluates the costs and benefits of various options, but the values are greatest when this sort of thing is done before the decision is made. I agree that an element of what you are saying is very true, but just for the study coming on after to ex-post justify some of the budget assumptions is probably not of much value. As someone who does these things, I think it is a good discipline to try to put numbers on these. They are very hard to estimate, but when you start thinking, ‘How am I actually going to put a number on it?’ you start to think about the things that affect the costs and benefits. It actually helps with the development of policy. Really it should be done within the department at an early stage. It does not have to be formal, but just thinking in terms of what the costs and benefits are, and how we can tweak the policy to increase the benefits. We find out that the benefits really depend on penetration, for example, so then we might want to encourage that. Also, just comparing different policy options is important. I said before not only that it is good discipline but that it makes things explicit. Then people can look

at your assumptions and say, 'Oh well, that is ridiculous.' You might say that you are underestimating the benefits of this and be open to criticism. But implicitly you have to do this whenever you make a policy. You have to think about the costs and benefits. I am saying it is a good idea to explicitly write them down, because it is a good discipline and it makes things transparent and open to evaluation and criticism.

**Senator LUDLAM**—I guess that is not quite the point I was making about when it happens. I apologise for having been out of the room; I was a bit late. Professor Ergas said that this could be done in three days if somebody put their minds to it, or whatever that may be—

**CHAIR**—Perhaps I am verballing you on the three days. A few days, I think you said.

**Senator LUDLAM**—And I am not sure that that was to be taken as a commitment that you are going to go away and do it—

**CHAIR**—I think it was a serious offer; wasn't it?

**Senator LUDLAM**—By monetising things that actually probably should not or cannot be monetised, you are forcing yourselves, to my mind, into a rather artificial framework. You can calculate the costs of digging the trench and that has a monetary impact that you can stick on a balance sheet. What is the value of providing fast broadband to a remote Aboriginal community in the Pilbara where they are downloading their administrative documents on a PDF? You are going have to invent a number and then you are going to present the parliament with a—

**Dr Harrison**—Monetising just makes them comparable. Monetising just makes them comparable to put them in the same dollars terms—

**Senator LUDLAM**—Yes, but they are imaginary numbers. The core costs are physical. As to the benefits, you have to make numbers up and then you—

**Dr Harrison**—But if you assert—

**Senator LUDLAM**—Sorry, just let me finish. Professor Ergas, to his credit, did undertake a cost-benefit analysis, I guess, last year, or quite some time ago now—it was the first time it was attempted—and you come up with a number beyond which, according to sound public policy, we are better off without the NBN. If it costs more than this, we are better off without it. I do not dispute the estimated costs, because it is infrastructure and that is people's time that we can estimate, but I do dispute that you can come up with an imaginary number that says, 'Beyond this it is not worth bothering.' That is a political question. It is a question of social and public benefit. I am not sure it is an appropriate thing where you can just stick a dollar figure to it and say, 'If it costs you more than that, don't bother.'

**Dr Harrison**—But you must implicitly do that when you make a decision about the project.

**Senator LUDLAM**—I do not think so. I think it is a political—

**Dr Harrison**—When you say, 'Go ahead', you are assuming that the benefits exceed the costs and the question is: what basis do you have for that assumption? You have to try to think, 'Well,

you know, do they?’ and determine the benefits. How much are they worth? Some of these things—

**Senator LUDLAM**—I just do not think it is an economist’s question. I think it is a political question. The pricing model that was done in the implementation study is extremely important. Is this thing going to run at a profit or a loss? Those are good questions for economists and technologists and those are good questions to ask and it is important that we have that, but I think asking economists to invent a monetary number for the benefit of bringing broadband to a remote Aboriginal community is a bit imaginary.

**Dr Harrison**—The way I do these things is—

**Prof. Ergas**—Senator, can I just—

**Senator LUDLAM**—I am sorry; I know that is an assertion, not a question.

**Prof. Ergas**—Can I just respond to that for one moment.

**Senator LUDLAM**—Of course.

**Prof. Ergas**—This is an issue which arises in many areas where you have to do project appraisal, and they can be areas that range from social policy issues through to education policy. Here it arises in the context of infrastructure policy. I agree with you that there are a number of project impacts and that in reality it is probably not merely difficult to monetise but impossible to adequately or sensibly monetise. That is an issue on which, within economics, there is a debate as to whether there exists such incommensurable evaluations, but my own personal view is that at times there are project impacts that really cannot be sensibly monetised.

So what does that mean in terms of the proper conduct of cost-benefit appraisal? What I think it means is that in the cost-benefit appraisal what you try to do is to sensibly measure what you can measure. You try to be as clear as possible about what it is you have measured and how it is that you have measured it. It is then up to government—and in that sense I agree with you that it is a political decision at the end of the day—to say, ‘This study suggests that on the most careful cost-benefit appraisal this project will lose a billion dollars’—or it may be for a so-small social project and it will lose \$10 million—‘but we believe that these benefits exceed that loss.’ That is a quite proper decision for government to make, but it is a decision that government needs to make informed by the best appraisal on which it can rely. Having that appraisal then also assists the community in having confidence in, and being able to transparently hold government accountable for, the decisions it takes.

**Senator LUDLAM**—I completely understand.

**CHAIR**—I am sorry to do this, because there is a lot of interaction. Before Senator Ludlam arrived, your point was that a lot of those assumptions are there in the implementation study that we paid \$25 million for; if they were publicly released, people could do it. That is not quite Senator Ludlam’s point, I appreciate, but it is there.

**Senator LUDLAM**—Not so much.



**CHAIR**—Gentlemen, thank you very much. As I say, we could have—

**Senator FISHER**—I have a question.

**CHAIR**—A very quick one.

**Senator FISHER**—Perhaps on notice?

**CHAIR**—Yes.

**Senator FISHER**—Is the cost-benefit analysis the same as, ‘Is the National Broadband Network in the national interest?’ I think that is part of the discussion you have just had with Senator Ludlam. I suspect it is not. I suspect that whether the National Broadband Network is in the national interest is a broader question of how you would define a cost-benefit analysis in wonderful economic terms. So is it the same question? If not, is the additional one an appropriate question: ‘Is the National Broadband Network in the national interest?’ If so, how do you answer that question?

Secondly, the department indicated that even if the government were to have done a cost-benefit analysis it would have been very challenging because of the lack of international comparators. Again, this builds on, I think, your discussion with Senator Ludlam. I do not think you have answered how you would actually do that cost-benefit analysis, if you accept that there is a lack of independent comparators. Finally, even if it be concluded that you cannot do a cost-benefit analysis, how does that stop you wanting one?

**CHAIR**—I was going to say if you could answer that in 30 seconds I would allow you to answer, but I do not think—

**Dr Harrison**—I would say it is a useful input into decision making and it is always useful to know the costs. The main point that I was making was that the bond rate is not the cost of capital for this project.

**CHAIR**—Perhaps you could have a look at Senator Fisher’s more detailed three questions when the *Hansard* comes out in a couple of days, and perhaps you would not mind just giving us a response in writing. I am sorry not to allow you, but we do have other witnesses who have time constraints and we have to move on, bearing in mind that the committee itself was very late in starting. Gentlemen, thank you very much for coming. Thank you very much, Dr Harrison, for your generous offer that Professor Ergas made on your behalf.

**Dr Harrison**—I presumed that.

**Prof. Ergas**—It is an assumption.

**CHAIR**—It is an assumption.

**Senator FISHER**—At least it is public.

**CHAIR**—I shall make sure the government is aware of that very generous offer in the next day or so and I am sure Senator Lundy will pass it on as well, and perhaps you will get a phone call, but do not hold your breath. Thank you very much, gentlemen.

[10.57 am]

**COUTTS, Professor Reginald Paul, Private capacity**

*Evidence was taken via teleconference—*

**CHAIR**—We now have with us Professor Coutts, by teleconference. Professor, thank you very much for waiting and for assisting us with your evidence. We do very much appreciate the effort that you and others make in making yourselves available, often at considerable personal expense in time and otherwise. Professor, these hearings are part of the parliamentary process, so they are protected by parliamentary privilege. If there is anything you want to say that you would rather not say publicly, you should indicate that to the committee, who can then make a decision on that. Could I invite you perhaps to tell us who and what you are and then perhaps make a short opening statement, and subject yourself to some questions from my colleagues and me. We are, as I say, very conscious of the fact that you must leave no later than 11.30.

**Prof. Coutts**—Thank you very much. To introduce myself, I spent some 18 years in Telecom, as it was called, Telstra—

**Senator FISHER**—That sounded like 80, but I think it must have been 18.

**Prof. Coutts**—Eighteen. No, I am sometimes referred to as an industry veteran, but I am not that old. Twelve of those years were in the research laboratories—I describe myself as a reformed technologist—and then five years in the beginnings of the mobile sector. Then, to do something completely different I came to the University of Adelaide as the inaugural professor of telecommunications, where I set up a centre for doing contract research and consultancy for industry. In late 2003, I formed my own consultancy company, Coutts Communications, through which I consult to industry and government, both here and overseas. In that capacity I have certainly consulted to the various regulators, both technical and economic—ACCC and so on—and as you are well aware I was on the expert panel that was involved in what we call euphemistically the NB 1 process.

**Senator FISHER**—Does your involvement in the expert panel in the past place any limits on what you are able to talk about and, if so, what?

**Prof. Coutts**—Yes, it does. I obviously cannot talk about the detailed workings of the panel and the process and the information that we were made aware of at that time as part of the bidding process. So I can only talk to really what is in the public domain, which is the observations of the panel, for example, and other information that is in the public domain at this time.

**Senator FISHER**—But obviously you are an expert in many aspects of the industry, so you are able to speak as an expert as well, are you not?

**Prof. Coutts**—That is correct.

**Senator FISHER**—In the *Sydney Morning Herald* last September—and I know that predates the implementation study, and many other things, the implementation study on which this limb of this inquiry is now primarily focused—you were quoted as saying

‘People are asking, “What the hell are you doing and how are you doing it?” People of course are sceptical.’

On what aspect of the NBN are you of the view that people were sceptical about it, and is the scepticism warranted?

**Prof. Coutts**—My focus since the release of the government policy has been very much around what we would call the 10 per cent—or, if we take the implementation report, the seven per cent—of those that would be potentially outside the optical footprint. There were three issues there, which I commented on in that article and also in the *Melbourne Age*. There is the crucial issue of backhaul, which until, particularly, the implementation study had not been getting the amount of attention I thought it needed. While I was complimentary of the staff in terms of the rollout of the backhaul, with Next Gen it was only a start.

The other two issues are, of course, fixed wireless and satellite. I was really putting on the public record that at that point in time there had been very little in the public domain about what the government was doing with respect to meeting the needs for broadband for those that were most likely outside the optical footprint of the NBN.

**Senator FISHER**—Yes, indeed, and so you said, ‘There has been worryingly little discussion of how the 10 per cent not covered by fibre will get their broadband.’ So, with backhaul, satellite and wireless, can you now go through each of those and give us your view as to whether there has now been sufficient progress in terms of giving attention to each of those elements.

**Prof. Coutts**—Yes. I guess that, if you are someone living in those areas, sufficient progress would only mean when you actually have access to the service, so that is a little while away.

**Senator FISHER**—Hear, hear!

**Prof. Coutts**—But in terms of, I think, the potential to have greater confidence that their needs are going to be met, I think the first point was the start of the rolling out of backhaul. Again, it was only a start, but I was gratified to see in the implementation report the significant focus on the role of backhaul in a number of ways. It was not just about providing a competitive backhaul to the points of interconnect but also providing backhaul, for example, to fixed wireless providers, and also mentioning the importance of backhaul even for the satellite side. Because of the nature of the industry structure to date, the focus of the industry has been on the highly urbanised centres of Australia, as you are well aware. So I was very gratified to see in the implementation study a significant emphasis and quite a hefty proposed budget allocation against backhaul. So, firstly, backhaul to me is crucial to the NBN as a whole, but particularly for regional and remote communications competitive backhaul is an absolutely key. That involves a number of challenging issues.

The second point is the satellite. I said in that press release that unfortunately the satellite brand has been damaged in Australia. It is interesting to reflect that people are very happy, for example, with the subscription TV service from AUSTAR via satellite and do not even think

about it as anything inferior. The experience to date, however, with satellite for telecommunications has really been disappointing and in my view the actual delivery of service has been below what really one could expect in, say, the North American or European environment.

**Senator FISHER**—Before you finish answering this aspect of the question, in making your comments about satellite in the context of television, are you qualified to make that comment? I ask because various committees have heard some evidence about the less than perfect nature of satellite coverage.

**Prof. Coutts**—For TV reception?

**Senator FISHER**—Yes.

**Prof. Coutts**—I would be making those statements based on anecdotal evidence, and certainly I am not an expert in the satellite industry.

**Senator FISHER**—Continue on with what you are good at.

**Prof. Coutts**—Thank you very much for keeping me on train. As you know, the original policy statement of 7 April recommended two Ka band satellites, and that has been endorsed in the implementation study. The more difficult issue is, given the timing of the availability of that service via the K band satellites, what is going to be happening in the meantime. I am aware of a lot of diligent work trying to grapple with that one. It is only slowly starting to emerge. You would have seen the government's announcements of the revised ABG program. Recognising that that is an ongoing requirement for the delivery of broadband satellite services to actually subsidise the CPE or the terminal equipment, I would draw your attention to the implementation study report that additionally referred to quality of service. That is something that needs more attention. One of the areas I have been looking at in conjunction with some university colleagues and my commercial client in this area—which I must declare is APN, which trades as activ8me, a mobile satellite service provider—is really clarifying what we call the performance metrics. There has been a lot of discussion, much of it not particularly well informed, about what 12 megabits means, what 'average data rate' means et cetera. It is my view that there is the potential for the satellite platforms to certainly deliver a service much better than has been experienced in the marketplace in Australia to date.

For example, I commend you look at the WildBlue service as offered in the US. In some areas of the United States the customers actually have a choice between a broadband satellite and DSL, and amazingly from the perspective of the Australian experience they choose satellite. So the experience of broadband satellite in Australia is not necessarily shared by other regions. There are some important reasons for that. Just to give you an idea, the broadband satellite market at most could be of the order of 200,000 to maybe 300,000 households. In the United States, it is estimated to be about 10 million, and it is similar for Europe. So there is the market size for satellite operators to provide service in the States, and there is no government program subsidising the CPE. That is one of the reasons it is needed in Australia—because of the small scale of the market. The NBN looking at the provision of broadband satellite to 100 per cent inclusive of that seven per cent to 10 per cent using satellite is an opportunity at last to really see

the application of industry's best practice in a country where satellite for those regions makes just so much sense.

**Senator FISHER**—You have previously expressed the view that NBN Co. should stay out of providing wireless. You have also expressed the view that wireless solutions should be left to the competitive market. What do you now say of the government's intent in that respect, and do you think the market can effectively operate competitively in the geographic spread of the last seven per cent?

**Prof. Coutts**—Firstly, from what I am aware, the government has not indicated its intent or its response to the implementation study report. I can only comment on what the implementation study report says.

**Senator FISHER**—You are quite correct. Thank you for keeping me on train. Touche; one-all!

**Prof. Coutts**—Going to the implementation study report, their recommendation was that government actually put out a tender or expressions of interest request for industry consultation for the provision of fixed wireless, noting in particular the potential for NBN Co. to provide backhaul. I was very pleased to see that in the implementation study report and to see the recognition from the study of the information that was available that really a number of options are out there to provide broadband wireless.

The first option is, of course, the mobile operators. Initially you had Telstra with Next G, but the other mobile operators are similarly rolling out what we call their HSDPA networks based on 3G evolution and will be looking at LTE et cetera. So already in terms of the mobile sector it is competitive to the high 90s per cent of the population, albeit at a different price point. However, there have been the initial offerings, not particularly well done, for the provision of fixed wireless using that same mobile infrastructure. I would like the operators to explore that in greater detail. I noticed in the public domain KHA identifying this as a potential opportunity post implementation study report to tender for the provision of fixed wireless.

The other option is, of course, the use of WiMAX technologies. That is a little more difficult. One of the areas I would have liked to see was not necessarily the opportunity for just one fixed wireless operator servicing that seven per cent but the opportunity for perhaps a regional fixed wireless provision by, for example, what they used to call in the industry WISPs—wireless ISPs. That certainly should be explored, in my view, in the consultation process of determining who the likely bidders would be to provide wireless. Why do I say NBN Co. should stay out? I think NBN Co. is doing an excellent job in rolling out the optical footprint. I am concerned with the provision of service using wireless access. Certainly they do not have the capability at the moment. They could acquire it, but the wireless space is potentially competitive already, and every attempt should be made to keep it that way to actually complement the NBN. I have expressed those views both publicly and also to NBN Co.

**Senator FISHER**—Finally, prior to the release of the implementation study, you said there will be no credible National Broadband Network policy and plan unless the solution to the 10 per cent of premises is addressed. Are you confident that it is being addressed or will be addressed if the government accepts all of the recommendations of the implementation study?

**Prof. Coutts**—I am confident from some of the discussions that it is being addressed. Whether it is being addressed to the level of detail and the level of depth that I would like to see happen is perhaps another matter. Again, I do not know to what depth they are looking at that. There are a lot of different parties in government involved in that issue. For example, there is the interim satellite solution and also the fixed wireless.

**Senator FISHER**—I hear you saying that, in terms of a credible NBN looking after the last 10 per cent, you are not yet prepared to pin your hopes on the implementation study.

**Prof. Coutts**—I am a bit of an optimist, as you probably know, so I am hopeful with the things I see and hear are happening—not at the pace that I would like. But, there again, I recognise the size of the task. I come back to the original statement. I think that, until the government really is clear how it is going to address that 10 per cent and who the 10 per cent are, the plan, shall we say, is not complete in the same way that the optical footprint—

**Senator FISHER**—Who are the 10 per cent? What will they get? When will they get it? How will they get it? How much will it cost them? Are they the questions that need answering?

**Prof. Coutts**—And probably a few more from there. We are just over one year into a more than eight-year program. My focus is that I and the people who talk to me from regional communities would like to see when broadband is comin' to town, so to speak.

**Senator FISHER**—Thank you.

**Senator LUDLAM**—Thank you very much for coming online this morning. I will follow the train Senator Fisher was following, about the 10 per cent, seven per cent or however many it is projected to be. You have made some really interesting commentaries in the *Tech Press* about ubiquity and that it is not just about commercial rate of return but an industry restructure and the types of services that we will be able to provide over this system. What is your understanding of the 12-meg rates for areas outside the fibre footprint—whether that is a peak rate or whether, from what I have seen, satellites will really only be able to provide a service similar or even slightly inferior to what we can get in the cities today with ADSL?

**Prof. Coutts**—No. Using current generation satellite, Ku band, even current satellites for a number of customers could provide 12 megabits per second. So the question is not just: can they provide 12 megabits? With current satellites you could. From my point of view, often finding the answers is easy; coming up with the right questions is the challenge. Much of the discussion in the press about 12 megabits, 12 megabits peak or 12 megabits average bit rate in some ways is not quite asking the right questions. I am certainly confident that we can provide multiple-megabit services right now that are better than you could see on DSL. However, there are issues around satellite provision that are inferior to a DSL provided service. The most obvious one is the issue of latency—the fact that the signal has to go all the way out there to that satellite and come all the way back again. With some of the work that APN is doing using the best-of-breed satellite CPE equipment as opposed to some of the equipment that is actually in the marketplace at the moment, you can actually get very satisfactory downloads much faster than you can get in DSL. You can actually have a web interaction experience equivalent to what you would see on a broadband service today. That is not the case with the sorts of services that are currently

provided in the marketplace. So there is a lot of upside potential to dramatically improve the quality of service and the sorts of bit rates that are provided to customers.

**Senator LUDLAM**—When you are building a new house, the builders will install electricity and water, you will get a postal service, and now you will get a trench with either a bit of copper in it or fibre or you will have access to wireless, but they will not come and install a computer in your house. The rough rule of thumb is that 20 per cent of homes in Australia do not have a computer in them yet. I realise that that is not NBN Co.'s problem—

**Prof. Coutts**—No, but it is a significant policy issue.

**Senator LUDLAM**—Yes. Before we start talking about ubiquity and closing down post offices and public libraries, have you had any thoughts that telecommunications are ubiquitous in different ways from other things that we would normally consider as being utilities?

**Prof. Coutts**—Interestingly, my wife is actually doing a PhD on the topic and on the difficulties of the older cohort in our population, and not just them, and their take-up and use of the internet. The term 'digital divide' used to refer specifically to the divide between urban and rural, but more recently it is recognised that there are significant groups in the community and businesses, for example, that really potentially would have access to the internet and broadband but that do not take it up. In fact, we have done some recent work north of Adelaide, where some 20 per cent of small business does not have the internet, and this is in 2010. It is not because they cannot ring up and get it; they just do not get it in a psychological sense.

**Senator LUDLAM**—Or maybe they do not need it.

**Prof. Coutts**—Probably right now they do not. But you have just pointed to the inexorable progress—that the internet is becoming the new utility.

**Senator LUDLAM**—Finally, we have been engaged this morning and over the last couple of months in a rather arduous debate about the benefits of a cost-benefit analysis as opposed to cost and profit models, which are two very different things. Do you have a view one way or the other about the need for the government to do a cost-benefit analysis, whether there are any flaws in that model, and whether that is something that would help with the debate?

**Prof. Coutts**—On one level, with respect to a discussion about cost-benefit, a broad study would be very helpful, as long as it is helpful in terms of an informed debate rather than an exchange of competitive press releases. In broad terms, yes. The difficulty is that there have been a number of studies in respect of broadband as such and the economic benefits, but it is unclear about particularly the benefits and, to some degree, even the costs of a ubiquitous broadband network. This is what makes it a very contentious issue, because it really does come down to looking at what else is happening and what other countries are doing around the world and a judgment of how the future is going to unfold. I do not mean to be deprecating to my economist colleagues, but they have never filled me with confidence with their ability to predict what is happening next year, let alone in the next five to 10 years.

**Senator LUDLAM**—Feel free to deprecate away. I will leave it there. Thanks very much.



**Senator FISHER**—I have one final question following on from Senator Ludlum. Is the NBN in the national interest?

**Prof. Coutts**—In my view it definitely is in the national interest. As I keep saying to people, it is not a matter of just leaving it to the government; it is actually something that everyone in the industry and outside the industry needs to be actively involved in, putting our views forward on what we expect from this NBN.

**Senator FISHER**—How can you say that in the absence of a cost-benefit analysis, which must form a key component of the national interest question?

**Prof. Coutts**—As I said, I am certainly not the one to do a cost-benefit analysis. I would just be cautious about putting too much faith in that that is going to answer the question one way or the other. If parties want to embark on a cost-benefit analysis, I think that should be encouraged.

**Senator FISHER**—Thank you.

**CHAIR**—Professor Coutts, any questions from Senator Lundy and me were really covered by the other two senators who did get the chance within our time limits. Thank you very much for appearing before us. Again, our apologies for your delay, and we do appreciate your making yourself available and hanging around. Thank you very much.

**Prof. Coutts**—That is okay. I am sorry I could not appear in person. Thank you.

[11.32 am]

**KERIN, Professor Paul, Private capacity**

*Evidence was taken via teleconference—*

**CHAIR**—Professor Kerin, you have not appeared before our committee. Have you appeared before any Senate committee previously?

**Prof. Kerin**—The Senate committee on petrol prices a couple of years ago.

**CHAIR**—Okay. That is not part of your qualification, mind you, I should say, but these proceedings are proceedings of the parliament and therefore are subject to parliamentary privilege. If there is anything you did want to say that you thought would be better said in private, please ask us about that and we will consider that request. This is yet another hearing of this select committee. We are particularly looking at the implementation study, and some of the comments which you have made publicly attracted us to inquire if you would be prepared to give evidence. If it is okay with you, I will ask you to make a short opening statement and then perhaps the committee members will have some questions for you.

**Prof. Kerin**—Thank you for inviting me. I guess, as you invited me, I will not give much of an introduction. I would rather leave time for you to ask questions, so I will keep it short. You may have seen some of the background materials I sent Ian Holland, the committee secretary. From that you would gather a number of things. One is that I am not beholden to any interest. I think I have criticised most sides of the debate on the NBN. I have long shared Senator Conroy's concerns about Telstra and about broadband pricing, availability, speeds and so on. I have argued for alternative ways to do that in the past, whether it is forced separation before the NBN came along or possibly, once they announced fibre to the home, frankly something like buying Telstra back, breaking it up and selling off the pieces. That way you would have a number of independent separate networks straightaway competing against each other. I think competition is the best way to achieve a lot of those objectives.

On the NBN, I started writing on the fibre-to-the-home solution the day after it was announced, and I was concerned at that stage about process, in particular whether a cost-benefit analysis was done and whether the government had met its guidelines. My latest issue has been on the implementation study, the business case. My concern, from a finance perspective, is that even if you believe the McKinsey KPMG numbers it does not stack up. I am also concerned about process, because it is pretty pointless doing a business case after you have already decided to spend \$43 billion of taxpayer money, because you know what the answer is going to be. At a higher level, they are my overall thoughts, so I am happy to answer any questions.

**CHAIR**—Just before we do that, could you tell us who you are and what your discipline and expertise is?

**Prof. Kerin**—My name is Paul Kerin. I am a Professorial Fellow of the Melbourne Business School. My main field is business and corporate strategy, including things like mergers and

acquisitions. My training is as a micro-economist and I teach micro-economics as well as managerial economics. I have had a long-term interest in telecommunications. You should be aware that I worked as a telecommunications consultant for many years. I have not worked as a telecommunications consultant for probably about eight years. Telstra was my client for a long period on issues not relating to broadband, but I have no affiliation with Telstra at all. In fact, I criticise Telstra more heavily than anyone in these debates.

**CHAIR**—Just before I pass to Senator Lundy, I did not quite hear you when you were talking about the McKinsey-KPMG implementation study. Did you say that you were concerned that the numbers do not stack up?

**Prof. Kerin**—That is right. What they have done is to calculate an internal rate of return on the return that the project earns. From a finance perspective, you need to compare that to what the relevant cost of capital is, and a basic principle of corporate and public finance is that the cost of capital you use has to reflect the specific project's risks. It is irrelevant who the owner is, because the risk is going to be the same regardless. The fact that the government can borrow at the risk-free rate is irrelevant. The issue is: does this project have a positive present value when you take account of the fact that the cost of capital is a cost that reflects the risk of the project, which is high? Those risks do not go away just because the government owns it. Those risks are borne by taxpayers, and that is a cost.

**CHAIR**—Is that another way of saying: could the \$43 billion have better been spent on something else? Is that the same issue?

**Prof. Kerin**—In principle, yes, because the cost of capital or the discount rates that you use when you discount future cash flows should reflect the opportunity cost of those funds. The government has alternative uses. We taxpayers could have spent the money if the government gave it back to us. We could earn a return by investing that money in projects with similar risk and, if we were to do that, we as individual citizens would require compensation for that risk. We would not be prepared to just accept the risk-free government rate. Yes, it does reflect the opportunity cost of those funds, whether it is government use or whether it is taxpayer use.

**CHAIR**—We will probably go until five past 12 with you. Does that fit your timetable?

**Prof. Kerin**—Yes, that is fine.

**CHAIR**—I will pass now to Senator Lundy.

**Senator LUNDY**—My first question is: what assessment or views do you have on the cost of the opportunity lost if Australia does not make this investment in the National Broadband Network, given that other countries inevitably will, and progress will continue to be made in other economies that Australia is competing with?

**Prof. Kerin**—Firstly, I do not think it is necessarily so that other countries inevitably will. They should only do it if they are acting in the public interest, if the business case and the cost-benefit analysis stack up. I should firstly distinguish between a business case and a cost-benefit analysis. The implementation study did a business case, which really looks at the financial cash inflows and outflows associated with the NBN. That is one issue. The bigger issue for me is the

cost-benefit analysis, which gets to your point, because we have to look at the benefits of doing this project and also the costs. The benefits should include all the benefits to society through faster broadband, cheaper broadband or greater availability and so on. Yes, there may well be benefits from this project. No-one has looked at whether those benefits exceed the cost of the project—\$43 billion.

Secondly, as Infrastructure Australia or any economist would say, when you do a cost-benefit analysis one of the most important steps is defining what is the problem that you are trying to solve and what are alternative options to do that. You cannot evaluate a fibre-to-the-home project in isolation, because the choice is not between that and nothing. You really have to compare that with what is the next best alternative, which has not been defined. One issue is the absolute benefit of this project, but the relevant issue is: what are the incremental benefits relative to the next best alternative to try to get those objectives, versus what is the incremental cost of this project versus the next best alternative? That has not been done.

**Senator LUNDY**—That might be a good quote for the opposition senators' report. I would like to ask you a very plain question up front. Given your experience in the telecommunications industry, do you believe that Australia will benefit from a universal high-bandwidth network reaching out to all citizens in the way this policy would describe? I am not asking you about the economics or the business case. I am asking you about the public policy.

**Prof. Kerin**—There would be some gross benefits from this project. I doubt whether the benefits would outweigh the costs, in particular, when you compare this project to the next best alternative, which has to be done; you cannot consider it in isolation. My answer is: yes, there are gross benefits in doing this if the alternative is to do nothing. The issue is whether there are incremental benefits that are worth the incremental costs.

**Senator LUNDY**—You mentioned in your introduction that you worked for Telstra or with Telstra. What was the nature of your work?

**Prof. Kerin**—I used to run the consulting firm AT Kearney. We did a lot of different sorts of work. There was a lot of strategy work, ranging from how to price fixed access and call products through to—

**Senator LUNDY**—Did you say how to price fixed access?

**Prof. Kerin**—Yes, that was to the copper network. After deregulation fixed access per se was losing money and they were making the money on calls. The problem for them was that now that they faced competition, new competition could come in and earn nice returns from competing on calls, but they were not going to provide access. The issue was how they would solve that. I worked for them on mobile strategy in the early days of the mobiles business. I worked with them on cost reduction, productivity improvement in a number of areas, such as call centres. I worked with them on evaluating the Australia-Japan submarine cable project a number of years ago. There would be some others, but that gives you the flavour of the sorts of work I did.

**Senator LUNDY**—What period of time did this cover?

**Prof. Kerin**—My first project would have been in 1991. My last project would have been 2002-03.

**Senator LUNDY**—Around that period, particularly 2001, remains heavily etched in my mind because at the time the CEO of Telstra, Ziggy Switkowski, was declaring that Australians did not want broadband and as evidence of that he cited the failure of the Telstra sponsored Launceston broadband project. Was that the prevailing view within Telstra at the time, from your perspective as a company associated with Telstra in the early part of that decade?

**CHAIR**—I am not sure that the professor could answer that or what it has to do with this inquiry. This inquiry is on other matters.

**Senator LUNDY**—Perhaps I could ask the professor what his view was of Ziggy Switkowski's pronouncements of the time.

**CHAIR**—I am not quite sure what that has to do with this, but if the professor wishes to answer then it is up to him.

**Senator LUNDY**—The debate and discussion is one of the public policy merits of public investment in a high-band network. Telstra, as an organisation, declared a long time ago that they did not think it was in the best interests. They have changed their position since then. I am interested in Professor Kerin, given that he has a slightly external view on Telstra, giving an insight into the thinking.

**CHAIR**—It is up to the professor whether he answers that or not, but we are looking into the implementation study. Professor, over to you.

**Prof. Kerin**—I will give you my subjective observation based on my interactions with a number of executives at the time, and of course Telstra has a lot of people, so this is probably a biased small sample on which to gauge. I would say the prevailing view was that broadband was not going to be as large a business as it has turned out to be. By the way, that was not just the view within Telstra; it was the view in most places around the world at that time. Things have changed, of course, since that time. I saw broadband as a growth opportunity, but I did not know how big it was going to be. There was a lot of uncertainty. In fact, Telstra asked us to come in to help them because they said: 'There's so much uncertainty here. Why don't you take a look out five years to see what's going to happen to these products and then work backwards and help us out about decisions today?' Most analysts have changed their viewpoint on broadband over time, inevitably, because the cost of bandwidth changes and consumer awareness of the value changes. I have been heavily critical of Telstra's view right up through the tender process on the benefits of broadband and the costs of broadband, so I am on the record as disagreeing with Telstra's views very heavily.

**Senator LUNDY**—Thank you for that. I would like to come back to the overarching issue in relation to the implementation study and the question about a cost-benefit analysis. The government has formed a policy view based on a whole series of evidence of reports about the benefits or the prospect of ubiquitous broadband networks in economies and associated economic benefits with the availability of affordable high bandwidth networks to both businesses and citizens. In your view, why is that not enough for the government to be able to

stake their vision and provide the leadership for this public investment? Why are you now making the case that that is not enough—that it is not enough to have political leadership or vision on a policy like this?

**Prof. Kerin**—I think leadership and vision are great. If we use floppy words like ‘vision’ to justify spending \$43 billion of taxpayers’ money, I have a problem.

**Senator LUNDY**—Well, \$26 billion, if you read the implementation study, which is the maximum investment.

**Prof. Kerin**—The total cost to society is \$43 billion. A cost-benefit analysis evaluates whether this is good for society. It looks at the benefits to society and the costs to society. The cost to society is \$43 billion. The benefits are talking about vision, and how everyone wants high-speed networks that work, and quoting a couple of studies is not the sort of rigour that is required when we are spending \$43 billion of taxpayers’ money, six times as big as the highest previous figures ever for an infrastructure project.

**Senator LUNDY**—It is \$26 billion, according to the implementation study.

**Prof. Kerin**—If you are doing a cost-benefit analysis, you have to compare the cost to society with the benefits to society.

**Senator LUNDY**—I am just intrigued with the cost-benefit analysis in the absence of a network to study in this regard and in the absence of all of the unknown potential of a universal high-bandwidth network—and people are talking about the cost-benefit analysis. What would your methodology be in the absence of a network of this nature and the capacity, I suppose, to read the tea leaves and predict the future uses of such a network, which is part of the challenge and part of the reason why leadership and vision is required with respect to this investment, because some of those unknowns are never going to be able to be quantified? I put to you that the case you make for the style of cost-benefit analysis that you describe is really just another way of saying the project should not proceed.

**Prof. Kerin**—If you are saying that the benefits are so uncertain and unknown, it is pretty strange that the government is saying—

**Senator LUNDY**—No, do not misinterpret me. I am not saying they are unknown. I am saying that I think there is a raft of benefits and the government has done well to articulate many of those, but there is an additional benefit that we will not be able to quantify because it has not happened yet. The nature of the internet and the possibilities of the digital environment are yet to be invented. It is not possible to quantify those unknowns.

**Prof. Kerin**—There are two standard ways to deal with that and in the commercial world this is how we handle that uncertainty. If you cannot predict the key variable that affects the cost-benefit analysis or the business case, a standard way to help get around that and form a view is to reverse-engineer it—that is to say, how big would these unquantifiable benefits need to be in order to justify this present value of costs that we are incurring here? You can therefore dig in and say, ‘How big does the penetration need to be?’ for example. What does the uptake have to be in order to generate enough benefits to justify this cost? Often when you do that in the

commercial world it turns out that you get quite a lot of agreement because you find that, if this variable has to be at least this much, everyone might agree that, yes, it would be at least that much or everyone might agree that, no, it cannot be that much. Therefore, you can often get around uncertainty in that way.

The second point I would make—and this gets back to why cost-benefits analysis in comparing options, not just one option in isolation, is so important—is that, if you define two or more options that achieve the same benefits in terms of broadband speed et cetera, you have to compare which is better. So, if you come up with an alternative, whether it is breaking up Telstra and selling it off or whatever, that will deliver faster broadband and all the benefits that the NBN is supposed to deliver, quantifying the benefits does not matter because you just look at the difference in costs. So there are two ways in which it can be handled. The government has done neither.

**Senator LUNDY**—I will finish my questions by making the point that Telstra itself has said their copper network exists at five minutes to midnight and it is unable to service the future needs of the country. Does that kind of statement not count in what you are trying to put forward?

**CHAIR**—This is not a debate. We are here to ask you questions, of course, and there are another three senators to fill in the next 10 minutes of your time. If you have a quick answer to that, go ahead, and then I will go to Senator Ludlam.

**Prof. Kerin**—Telstra has other networks as well. It has the HFC cable network, for example. It has wireless networks et cetera. One of the options that I propose is to buy Telstra back, break it up and sell off each of the networks so that you have competition straightaway. That would automatically generate competition. Our views on whether or not copper is going to last are that it is an open question. I would disagree with the view that copper is not going to last. It is largely a sunk cost—that is, the cost has already been incurred in investing in that copper. Whether you close it down or you do not, there is not a lot of incremental cost in using the network. Therefore, as long as Telstra gets a reasonable amount of business on that, it is worth keeping open. The improvements in providing broadband over copper with ADSL2 and potential further options will generate quite considerable benefits, so you have to compare the incremental benefits of the NBN with what benefits would occur through those other options.

**Senator LUNDY**—I am going to be shut down, but I have to say that even Telstra has said that ADSL can only reach 50 per cent of its customers at any one time, so it is not a universal network and never will be.

**CHAIR**—This is not a debate. We are here to ask questions.

**Senator LUNDY**—But, as I have said with other witnesses, statements are made as though they are a fact. They are usually half the fact or do not tell the whole story. I think it is important to make sure that the whole story is told and these statements are put into context.

**CHAIR**—In your view. Senator Ludlam?

**Senator LUNDY**—Facts are facts.

**Senator LUDLAM**—Are you aware of whether a cost-benefit analysis was done before Telstra's predecessor, Telecom, put the copper into the ground?

**Prof. Kerin**—Before they put the copper into the ground?

**Senator LUDLAM**—My question goes to the fact, following the line of thinking that you are pursuing, if we had done a cost-benefit analysis on whether Telecom should have installed copper 60 years ago, we probably would not have done it.

**Prof. Kerin**—I do not know. It was so long ago that I do not know. I do know that the costs and benefits of the Snowy Mountains scheme, for example, were looked at intensely before that got the go-ahead.

**Senator LUDLAM**—The costs and benefits of the Snowy Mountains scheme would probably be a little bit easier to do than trying to estimate and monetise the benefits of an enabling network such as the NBN. On 13 May you had a piece written up in the *Australian* where you said:

The study recommends that NBN Co should operate commercially with little or no subsidy. But as the project IRR falls far short of NBN Co's WACC, it will not earn a commercial return and will require a multi-billion-dollar subsidy or bailout at some point.

That is quite a bold assertion and there is nothing else in the article that really backs up your suggestion that there is going to need to be a bailout. How far down the track is that and how much do you think it is going to be?

**Prof. Kerin**—I am taking the implementation study numbers as given, even though I think they are very optimistic, and my basic point is that that project returns a six per cent rate of return. For a commercial organisation—and, by the way NBN Co., as a government-owned commercial organisation is required to earn a commercial rate of return under competitive neutrality—a commercial rate of return for NBN Co. would be at least 12 per cent, at least double the six per cent that is going to be earned. Given that when it issues debt—and in the implementation study a lot of debt is issued—it must pay commercial rates on that debt, which would be at least a couple of percentage points above the six per cent. If it is paying additional money out over and beyond what the implementation study is including, which it would be, and the implementation study is saying it will only break even at six per cent, by definition it must be unviable and losing money and not being able to pay those commercial returns to debt and equity holders even under the implementation study numbers.

**Senator LUDLAM**—Leaving aside the competitive neutrality question for a second, my understanding is that governments for good reason can raise debt at a significantly lower cost than the private sector can. Is that not the case?

**Prof. Kerin**—We could have a long discussion on that one. The cost of debt at the margin for the government is not the relevant cost of capital for a particular project. When we are looking at the cost of capital in evaluating commercial projects, oftentimes my students will say to me, 'Debt is cheaper than equity, isn't it, so why don't we just fund it at 100 per cent debt and then it will pass the business case?' But the point is that when you issue more debt that increases



financial risk and therefore investors need to be compensated for that extra risk and so the cost of equity goes up. In a commercial organisation, when a mix of debt and equity is determined to minimise that overall weighted average cost of capital, you cannot just look at the cost of debt and say that is the cost of capital. If you look at the interest rate paid on debt even in a commercial organisation, narrowly you would say, 'That it is a lot less than the cost of equity, and I would never issue equity,' but that would be the wrong conclusion.

**Senator LUDLAM**—Keep in mind you are talking to a room full of non-economists. I am still not sure whether your answer to my question was yes or no. Are you suggesting that NBN Co. is going to run at a loss because in the implementation study they have dramatically underplayed the cost of financing the project?

**Prof. Kerin**—That is right, yes.

**Senator LUDLAM**—By what kind of margin in that case? I do not know whether you have time to make a little spreadsheet or something, but at what point is this bailout going to be required?

**Prof. Kerin**—I do not know the year. I have not done the calculations. What I can say is that the cost of capital would be the weighted average cost of debt and equity for the NBN, which would reflect the risk of the project that investors would require a return on; that would be at least double the six per cent return.

**Senator LUDLAM**—In this case the investor is the Commonwealth government and they have repeatedly said they are prepared to wear that risk, however you might want to quantify it. The investors you are talking about in this case are ministers.

**Prof. Kerin**—We are talking about NBN Co. as distinct from the government.

**Senator LUDLAM**—That is an important distinction. But the investors in that project for the time being are the Commonwealth, but you seem to be talking about them as though they are just ordinary players in the market.

**Prof. Kerin**—The government is the representative of the taxpayers. The government is investing taxpayer money. Taxpayers could invest that money and earn a commercial rate of return.

**Senator LUDLAM**—No, taxpayers have elected this parliament to make some of those investment decisions for them. Rightly or wrongly, they do not have the ability—I guess during an election we might make the case—to tell the minister to go and invest in gold or some other commodity somewhere else. I am just trying to pin you down on your point about what investors might want. The investor in this case is putting out press releases under the letterhead of the minister for communications.

**Prof. Kerin**—Taxpayers cannot tell the minister what to do, but if the minister is making a decision on the basis of the national interest then he has to take account of the costs and risk imposed on taxpayers. A risk-free rate of return does not take that into account.

**Senator FISHER**—Just following Senator Ludlam's line of questions, are you not also saying that in the absence of a cost-benefit analysis it is difficult to second-guess whether in fact the government should be the investor?

**Prof. Kerin**—That is right. It is difficult to know, firstly, whether there should be an investment at all by anyone and, secondly, whether the government should do it. I would certainly say that, if a project generates benefits to society that cannot be captured by a commercial business, I am all for the government investing in that project, because the benefits to society may well outweigh the costs. But what we should do is look at what those benefits are and what those costs are rather than understating the cost of the project and not quantifying what the benefits are.

**Senator FISHER**—So, while Senator Ludlam is technically correct to say the investor is the government, you are saying there is no evidence that it should be so?

**Prof. Kerin**—The government is investing on behalf of taxpayers. If you take an analogy to a commercial organisation, shareholders invest their shares in a company and they elect the board and the board elects a CEO. Individual shareholders cannot tell them what to do, but the board and CEO have the obligation to act in shareholders' interests and they have to evaluate projects based on what a shareholder's required rate of return is and only invest in projects if they meet the shareholders' required rate of return. That analogy should apply here. The government is like the board or CEO acting on behalf of taxpayers rather than shareholders in this case; they should take the taxpayers' cost of capital into account. By the way, this is not just me saying this. Infrastructure Australia says this. There are any number of government organisations that say this. I think I quoted Infrastructure Australia in my 13 May article, which dispelled the myth that the cost of debt was the relevant cost for government projects.

**Senator LUDLAM**—Professor, we are running a country, not a corporation. I want to bring you back to the point you have made about a loss. Is it a theoretical loss or is it an actual loss? By what margin have they underplayed the cost of raising the debt to pay for the rollout of the NBN?

**Prof. Kerin**—As I say, the cost of capital, which is sort of an average of the cost of debt and cost of equity that would be required to fund this as a commercial organisation, would be at least double the six per cent return.

**Senator LUDLAM**—Yes.

**Prof. Kerin**—If you raise debt for this project, you would be paying at least a couple of percentage points over the risk-free debt that the government could pay, so that is at least eight per cent. As to the cost of equity on this project, I will not go into the sort of technical details, but finance people look at that by looking at the risk-free rate and then adding on a margin that reflects the risk of that project. That risk premium would be at least six per cent. For a typical project it is six per cent; for this project, which has relatively high risk, it would be somewhat greater than that. If you average those two, depending on what mix of debt and equity you have, it is going to be way higher than six per cent. Therefore, the return that you earn is not going to cover your cost of capital.

**Senator LUDLAM**—I think in a way all we have done here is prove that private capital will not build and would not have built the NBN; that is precisely the reason why government is going to need to step in if it makes a political decision that it is in the good of the Australian public that this thing be built and that private industry are not going to do it because they will not be making enough money or they will not cover what they perceive as the risk. All we are really doing here is establishing that, if the government does not do it, it is not going to happen. Is that a reasonable—

**Prof. Kerin**—Yes.

**Senator LUDLAM**—Okay, so then—

**Prof. Kerin**—So the issue is whether the benefits to society outweigh the loss.

**Senator LUDLAM**—Exactly, yes. I would put it to you that that is a political question and a question of social benefit, rather than something that economists would be able to total up on a spreadsheet to tell us that the benefits outweigh the costs or they do not. I am still really interested—in the real world, not in a theoretical world of models and so on—in how much you think they have underplayed the amount that it is going to cost to raise the capital to build the NBN. You have made some really strong assertions. You have not said it ‘may’ require a bailout, you have said ‘it is going to’, and that is quite a strong thing to say.

**CHAIR**—Perhaps, just before you answer that, I will ask my one question, because we have run out of time. Associated with that, the government’s original premise when announcing this was that this was going to be a commercial operation and that 49 per cent of it was going to be sold to private industry, and we all assumed that would be in the near term rather than, as now appears to be the case, 30 years. Perhaps you could factor into your answer to Senator Ludlam any comments you might have about those projections of private equity investment and infrastructure bonds or some other way of funding this.

**Prof. Kerin**—The costs of raising the finance commercially could be debated forever. What is sure is that the commercial cost is greater than six per cent, because the six per cent does not allow for any risk. If you were raising funds commercially, you would have to pay a risk premium. If NBN Co. is operating as a commercial entity—and even the McKinsey-KPMG study said NBN Co. should not be subsidised by the government—issuing debt under its own name and eventually at some point in time issuing equity, that cost must be greater than six per cent. Therefore, it will not be earning a commercial rate of return. That cost will be substantially greater than six per cent. We could argue how much, but regardless of how much it is it will not be earning a commercial rate of return and therefore it will need a further cash injection as some point in time.

**CHAIR**—Professor, there are a lot of other questions we would have loved to ask you, but we have run out of time. Could I just, in fairness to you, alert you to the fact that in our fourth report we actually quoted some of the things you had said publicly and we asked NBN Co. and the department to respond to the issues you raised, which they did at pages 12 and 13, I think, of a document which the committee has decided to put on the website. So could I invite you, once the committee secretariat get it on the website, to have a look at that. If you would like to respond to the responses—and they are generally responses to you and other analysts and experts who made

similar comments to yours—I think I can get from the committee their agreement at this stage to put on the website anything you might respond to the response about, just for completeness, unless of course it is highly defamatory or abusive, which I am sure it would not be. If you could just have a look at that, that might help that. Professor, again, thank you very much for your assistance to the committee. I am sorry we could not meet you in person and have a little more time, but we do very much appreciate your expertise and your input into our inquiry. Thank you very much.

**Prof. Kerin**—Thank you, and thank you for inviting me. I will have a look at that report on the website and get you back my thoughts. Thank you.

**CHAIR**—Thank you.

[12.26 pm]

**PEARSON, Mr Mark, Executive General Manager, Regulatory Affairs Division, Australian Competition and Consumer Commission**

**RIORDAN, Mr Sean, General Manager, NBN Engagement and Industry Compliance Branch, Australian Competition and Consumer Commission**

**CHAIR**—I now call the ACCC. The committee has agreed to sit until quarter to 1 and reduce our lunch hour by 15 minutes. I suspect that by the time we get there we might extend a bit further, but some of the committee may have to leave, and after inviting you to make a short statement I will go first to Senator Ludlam, then perhaps to Senator Lundy and then to Senator Fisher, in case people have to go and do things in what was to be the lunch hour.

Gentlemen, thank you very much for coming along. I know you have been in parliamentary committee inquiries before, so you know all the rules. Would you like to make any sort of opening statement, perhaps even to tell us who and what you are? You have come along, certainly, at our invitation, and we very much appreciate that.

**Mr Pearson**—We will not make an opening statement.

**CHAIR**—Having said I was going to start with Senator Ludlam, I am just going to ask you something quickly. This may not be your area, but I understand one of the submitters to our inquiry has alerted us to the issue of the Intra Government Communications Network, which is acronymed as ICON. Has the commission given any thought to what might happen if ICON, which is the government internal communications network, were rolled into NBN—whether it forms part of the NBN or whether ICON might remain separate? I appreciate these are not decisions for you to make, but I just wonder whether that has come across your radar at all and, if it has not, could I perhaps ask you on notice to give some thought to whether that would have any impact on any of the policies that you administer on behalf of Australia.

**Mr Riordan**—No, it has not arisen and, yes, we will take it on notice.

**CHAIR**—You know about ICON, do you, or—

**Mr Riordan**—I will certainly find out.

**CHAIR**—Okay.

**Mr Riordan**—I imagine it is a service provider to government agencies.

**CHAIR**—I think, as I say, someone alerted us to that and I have not really focused on it. I understand the government has its own fibre network and one wonders what might happen with that going forward with NBN and whether it then raises issues.

**Mr Pearson**—We would take that on notice. I have had nothing to do with it at all; it has not crossed my desk at all.

**CHAIR**—Okay.

**Senator LUDLAM**—Thank you very much. I will offer an apology; I am going to have to duck out in 15 minutes or so, but thank you for joining us. Can you just firstly maybe describe for us the role that you are engaged in right now, if any, in the negotiations between the Commonwealth, NBN Co. and Telstra.

**Mr Riordan**—We are not involved in those discussions.

**Senator LUDLAM**—You are expecting to play, obviously, quite an important role once any negotiations have been finalised, because presumably you are going to need to accept any undertakings that are made by the different parties?

**Mr Riordan**—Yes, that is correct. If the legislation before the Senate currently is passed, there will be particular forms of undertaking which might be submitted as a consequence of such discussions.

**Senator LUDLAM**—Yes.

**CHAIR**—Which legislation is that you are talking about?

**Mr Riordan**—That would be the Competition and Consumer Safeguards legislation.

**Senator LUDLAM**—Are you playing any formal role, though, or has anybody sought your views to sound you out on any proposed undertaking, or are you expecting to be called in literally right at the end of the process?

**Mr Riordan**—We expect to be notified once those discussions are concluded to alert us that there might be some work coming to us, and then it will be up to the parties to submit whatever undertakings they think appropriate.

**Senator LUDLAM**—I am a little bit surprised to hear that. So you are not at the stage of evaluating draft undertakings or providing advice on different propositions at this stage?

**Mr Riordan**—The undertakings that we are in discussions about are draft undertakings being prepared by the NBN Co., which I consider to be independent of the discussions which you have raised.

**Mr Pearson**—We did have some meetings earlier, both Mr Riordan and I—this would have been several months ago, before release of implementation—where Telstra talked to us about functional separation, but they just laid out their views as to what it was. That is, I think, as far as we have been with that. It is up to them, once any agreement is reached or not reached, to then bring us in an undertaking.

**Senator LUDLAM**—I take your point about NBN's access undertaking being quite a separate matter. Are you able to tell us how many staff you have allocated to that piece of work at the moment?

**Mr Riordan**—We have 17 staff whose day-to-day work is to prepare for the access undertaking to be submitted by the NBN Co. and to prepare for any functions that might be allocated to the commission as a result of the legislation—either the exposure draft legislation or the legislation that has been introduced into the Senate.

**Senator LUDLAM**—As the nation's peak body on competition policy, what is your view on the various arguments around the idea of NBN Co. running a natural monopoly piece of infrastructure that will not actually be subject to competitive pressure?

**Mr Pearson**—I think there is no doubt that the whole development of the NBN was premised on it being a natural monopoly. My colleague and I were talking earlier about this, and it is a unique situation for us in that I do not ever recall having had to have a discussion about a new piece of infrastructure that had yet to operate and to think about the regulatory regime that would apply to that. With most of our work, whether it is energy or rail, ports and so forth, those infrastructure assets, of course, are already owned and operated and have a history. I do not think we have any real concern about the NBN being a monopoly infrastructure. We would like—and we have put this on the record—to see enough flexibility. We would not want to see future developments such that with technology changes or whatever where we would lock in a monopoly that then prevents competition 10, 15 or 20 years down the track. Those sorts of issues are still being discussed. I think they have been raised in this committee to do with the layer 1, layer 2, layer 3 and so forth. They are live issues, but I do not think there is enough information. I do not think anybody has enough information right now to determine the really low level unbundling competition issues. If they were kept at a wholesale only we would have to say that is an improvement on having a vertically integrated operator with that sort of power. That is the bottom line for us.

**CHAIR**—If NBN were privately owned in the future, would that alter your lack of concern on the monopoly aspect?

**Mr Pearson**—No. It is an interesting debate even internally with us. For example, there are some of us in the commission who would believe that incentive regulation works better with privately owned monopoly infrastructure than it may with publicly owned. That is not a commission view. That is just a debate that happens. It is not clear cut. When you go to private there are some issues that people raise about returns and the profit incentive, but if you have a good rigorous regulatory regime in place then that should counter most of those concerns, as long as you do not allow that to creep into other areas where you run into a vertical issue with all sorts of discrimination issues. From a regulatory point of view, it may change how we approach things a little, but it would not really concern us that much.

**Senator LUDLAM**—Your views on the cherry-picker levy that is proposed in the implementation study: presumably that could be perceived as being offensive to competition principles, but is it that simple? Have you done any thinking about that?

**Mr Pearson**—Very little. Mr Riordan may have done more thinking than I have about it.

**Mr Riordan**—Yes, just at a more fundamental level. The implementation study, on its face, indicates that the cost differential between metropolitan areas and regional areas for this fibre access network is going to be quite a deal less than what we have observed to date. What that means is that, if there is to be a requirement for a uniform pricing requirement, the scale of that opportunity would be less than what we have seen to date. Our thinking has developed along the lines that the detrimental consequences of that initiative may not be so great and the opportunity for cherry picking may not be so great, provided that the implementation study is giving an accurate reflection of those costs.

**Senator LUDLAM**—That is interesting. With the seven per cent outside the footprint proposed to be reached by fibre, it looks as though the government intends to have quite a different model and that there would be competition at all levels. Is that your understanding? Can you give us a reading on how you think that final fraction of the market will work?

**Mr Pearson**—We would have to say that there is still some thinking to be done about that. I know there are some issues about that with tenders and so on. There are some good initiatives there, when you look forward, that would encourage a more competitive outcome, but I think there are probably still some policy issues that the government and the department need to go through before there is a final decision on that. I am not sure if Mr Riordan has anything to add to that.

**Mr Riordan**—I cannot say that I have read that particular section of the implementation study as thoroughly as I have read the rest. My reading of the suggestion in the implementation study would still have a single operator in that area, but that would be tendered out to commercial operators or another operator and not just the NBN Co., and they would be the operator of the network. What Mr Pearson has alluded to is that there might also be another model whereby multiple suppliers enter that market and provide those services.

**Senator LUDLAM**—There is a very strong possibility, at this late stage, that NBN will be competing with Telstra, in the event that there is no agreed settlement reached and that Telstra's traffic and customers are not migrated across to the NBN. We will then have the NBN Co. here and Telstra's vertically integrated form in some form or other there. What will that do to your job as a regulator? How different will the landscape be if that is the outcome?

**Mr Pearson**—The fundamental regulatory regime will not change a lot, but there will be a lot of other issues around the competition aspect. It has been alluded to by some of the presenters here or some of those who have been at the inquiry that some of the part 4 competition issues may arise.

**Senator LUDLAM**—That is probably a spectacular understatement.

**Mr Pearson**—They will be very difficult issues and they are very difficult to look at hypothetically upfront. They are fundamental competition issues, not necessarily regulatory, but of course the regulatory and competition issues will intersect there. It will mean we will have to work a lot closer with our competition enforcement side, our adjudication people and those competition people, than perhaps we would normally do. I do not think it changes the fundamental regulatory role with NBN, but it will raise other issues to do with competition in part 4 of the act.



**Senator LUDLAM**—Is it an oversimplification to say that the job of the regulator is going to be vastly simpler if Telstra rolls its traffic in with the NBN Co. and that we separate the retail and wholesale out? At the moment, my understanding is that the ACCC's dealings in the telco sector, in terms of numbers of disputes and so on that you are dealing with, are more than the rest of everything else combined and that this is a sector that is marked by conflict?

**Mr Pearson**—The vast majority of the conflict that arises now can be traced back, in many instances, to the vertical integration issue and the fact that Telstra is such—we use the word 'ubiquitous'—a strong powerful player in the market at a lot of levels. That is where a lot of the problems come to. There would be some who would argue that, if you had an NBN Co. that was operating in the market, if Telstra was trying to compete, it might force Telstra to compete more. That assumes, of course, that the copper network is going to last for another 20 or 30 years, which is a real issue. It is one of the issues that we face now and one of the issues that I am sure Telstra and the NBN face. It is not quite that simple. It would not be as complex in the sense that you would have the part 4 issues, but if they migrated and there is just the one wholesale entity and you did not have the vertical integration, there is no doubt the overall regulatory role becomes simpler eventually. On the other side, if it is going to remain complex, you would be assuming that Telstra stays in the market as a powerful vertically integrated entity. That does not take account of what may happen from NBN's competition. So it is a bit more nuanced.

**Senator LUDLAM**—I was asking before about the cherry-picker levy. You have NBN funded by the public, as a public good, which is going to need to be cross-subsidised to make services in regional areas affordable, where the private market has never bothered to go because the returns are not there. That brings me back to my question about the cherry-picker levy. We are not really on a level playing field. NBN Co. is going to try to cater for everybody. Telstra and its other private competitors are just going to go to where the returns will be highest. I do not want to leave any ambiguity here.

**Mr Pearson**—On the face of it, that is a real threat. However, we looked very closely at some of these aspects of the implementation study and we quizzed the implementation people on the issue of the cost curve. If their cost curves are right, then instead of going up quickly like that it will go along and then move up towards the end. If that is correct, there is a very large footprint where there will not be a lot of cherry picking available. You only have a small area at the end where the price is going up quickly, so the actual cross-subsidies could be a whole lot less than what you would expect with a rising cost curve. That is what Mr Riordan was saying. When you look at the actual costs, revenues and so on, it may not be the problem that perhaps we have seen in the past or that people have identified going forward.

**Senator LUDLAM**—Hopefully we will not have to find out. Thank you for your time.

**Mr Riordan**—Just a point of clarification. The question was going to an answer that I gave earlier. I think your subsequent question is more a question of a sunken, heavily depreciated infrastructure being in existence and being able to supply at least some of the services that would be supplied by the new infrastructure. It could be the case that the existing infrastructure would have a cost advantage in the short term but, as Mr Pearson alluded, in order to compete over the medium to longer term we would expect that that network owner would need to invest to upgrade their network and that cost advantage might dissipate.

**Senator LUDLAM**—Because it is copper competing with glass?

**Mr Riordan**—Yes. All the electronics will need to be upgraded and the network topology would need to be changed.

**Senator LUDLAM**—Thank you.

**CHAIR**—I think these facts are right but, if not, someone might correct me. In Tasmania there is an ADSL2 network. There is now competition to that in the form of NBN Co. Tasmania. We learned at the estimates committee that NBN Co. is not going to charge for the use of their network in Tasmania for at least a year. They were charging a \$300 connection fee, but nothing else. Is it right to think that NBN Co. Tasmania, totally supported by the Australian taxpayer, is perhaps undercutting a competitor with a non-competitive deal because it is funded by the taxpayer?

**Mr Riordan**—The facts that you have outlined are correct. There are one or two other facts that we are aware of that we could contribute. The pricing that has been announced by NBN Co. is very much for a trial service, and there is a limit to the number of premises that will be served by that trial and the duration for which that pricing will extend. We do not see it as having a significant competition effect based on that.

Another observation I would make is that the operators of the ADSL2+ networks are, in some cases, the same service providers that are now operating or have indicated that they would operate as a result of the trial service over NBN Co. Tasmania's infrastructure. That tends to lessen the extent to which you could be undercutting, because it is the same retail service provider.

**CHAIR**—You are right when you say some of them, but I assume not all of them. I am not sure of this, and we will ask Optus shortly, but I expect that Telstra and Optus both have a competing service into those areas now. It is of interest to me that NBN Co. is supposed to be operating commercially. It is giving away this attractive deal to the retail service providers, for example, 'Use my state-of-the-art service and it won't cost you anything.' Admittedly, some of the retailers have said that they have packages. I will not mention names but one of them said, 'For \$45 we can give you this fibre-to-the-home service, but it will only last for six or nine months; it is then going up to double that,' which I suspect is more the real cost of providing the service. However, at this stage, NBN Co. in response to questions at estimates did not really know how long the free of charge would apply—they had not made that decision yet. There is a prospect, I would imagine, that NBN Co. Tasmania will not be charging for a longer period. Would that be of concern to you in the face of unfair competition against competitive supply—Telstra on the other foot, so to speak?

**Mr Riordan**—It would certainly be something that we would look into, and in our dealings with NBN Co. where they have made that known to us we have communicated back to them that we would be very interested in hearing of any extensions to the offer so that we could take that into consideration.

**CHAIR**—Are you aware of what the actual offer is? As I recall from estimates, they were very vague about how long this was going to apply for.

**Mr Riordan**—Yes, they have written to us and they have informed us of that.

**CHAIR**—Do you feel you can tell us about that or do you feel that you are bound by some confidentiality?

**Mr Riordan**—Maybe we could take it on notice and I could check that with NBN Co. to see if they would be happy for us to—

**CHAIR**—You might say to NBN Co. too that I will be checking what they said at estimates, because my recollection is that less than two weeks ago at estimates—and I might be wrong—they really did not know how long this was going to last. So, if they have written to you, I would be interested in the date of their letter and would be assured that NBN Co. would not have deliberately misled the Senate. But I had better check my facts before I make comments like that. Senator Fisher has some questions and some of them we have sort of made available to you beforehand. There are a hell of a lot of them. We clearly do not expect detailed answers on all of them at this stage, but Senator Fisher might start the questioning in relation to those and other things.

**Senator FISHER**—When the ACCC comes to assess NBN Co.'s access undertaking, the act requires you to take into account NBN Co.'s direct costs of providing broadband essentially, does it not?

**Mr Riordan**—Yes, that is one of the relevant considerations.

**Senator FISHER**—What do you say then of, for example, the criticism from the likes of Professor Kerin of the implementation study's use of the internal rate of return model for NBN?

**Mr Pearson**—I think they are fundamentally two different models. One is more of a financial model. IRRs, internal rates of return, are usually used by corporate people—accountants. It is one of a number of measures that may be used. Our normal process in terms of regulatory regimes is fairly straightforward in terms of the building block cost of capital and how that is all built up.

**Senator FISHER**—Do you accept the use of the internal rate of return model, firstly, for the purposes of the implementation study and, secondly, in the event that ACCC gets to assess an access undertaking?

**Mr Riordan**—That particular criterion requires the commission to have regard to the direct costs of supplying the service. Mr Pearson has outlined for you that we take what is called the building block approach. We look at the operating costs and we then allow a capital charge, so for a long-lived asset we allow a certain amount to recover the cost of that asset each year and what we describe as a normal return on the capital invested. The approach to date has been dealing with commercial entities only, and they have tended to come to us with rates of return that are quite high, arguing that that is a normal rate of return. I think this will be a novel situation where we will have a government enterprise coming to us with a rate of return and the rate of return that we end up with that might be proposed to us might be quite different from what has been proposed by commercial entities in the past.

**Senator FISHER**—I guess I am asking how you are going to approach this novel situation. Are you able to say whether the ACCC would be able to accept the implementation study's use of the internal rate of return model and the 6.3 per cent outcome in assessing NBN Co.'s direct costs for the purposes of an access undertaking, or would you be doing what Mr Pearson has suggested is more customarily done?

**Mr Pearson**—I think they are two different tests and two different models. What the implementation study—

**Senator FISHER**—They are, but which would—

**Mr Pearson**—But it is a different—

**Senator FISHER**—Are you saying you would not use the implementation study's model?

**Mr Riordan**—No, we could use a rate of return quite similar to that or we could use a higher rate of return. It would be a matter NBN Co. will have to propose to us and we will have to assess carefully. I should say there could be a range of criteria in the act which we would have regard to in finally determining what rate of return we would choose to allow, and it would not just be the direct costs criterion to which we have regard.

**Senator FISHER**—If you could use a rate of return higher than 6.3 per cent and you did, would that mean that the ACCC does not accept a 6.3 per cent assessment as appropriate? Would it not necessitate that conclusion?

**Mr Riordan**—No, because again the 6.3 per cent is not about the regulatory returns or pricing. It is a different conceptual model being used for a different purpose.

**Senator FISHER**—Yes, and I do understand that is what you have been trying to get at. Was the ACCC consulted on the 6.3 per cent rate?

**Mr Riordan**—No, I do not believe that we were.

**Senator FISHER**—Is the ACCC concerned that, if the government's financing is based upon a rate of return—basically the bond rate or thereabouts—that will give NBN Co. an unfair competitive advantage in the marketplace?

**Mr Riordan**—I am not sure whether it does directly have that effect.

**Senator FISHER**—But it could?

**Mr Riordan**—Maybe we should take it on notice. I think there would be a lot of factors we would need to reach a view on before we could answer that question.

**Mr Pearson**—I think a one-liner to that might get us in trouble. It is a little more complex than that.

**Senator FISHER**—In answering that question, can you turn your mind to the differentials in terms of service and geography that feed into that.

**Mr Pearson**—Yes.

**CHAIR**—I just want to address some of the questions we have put to you. I think Senator Ludlam asked you about the staff and you have indicated a response to that. Is the maximum time period that the ACCC would allow for the undertaking to apply for something you could answer briefly? I appreciate some of these things might be more than we could expect to—

**Mr Pearson**—It is not so much a maximum period that we allow. It is what we allow around that undertaking as well. Instead of talking about NBN, I will talk about some work I did when I was working in the gas area, where an undertaking was offered up over 20 or 25 years. We would have accepted that had the triggers been accepted by the company. We wanted to put in triggers, I think around, every five years, or other triggers that may arise in terms of capacity, growth and so forth, and how competition in the market developed which would allow us and allow the company to come back and have us reconsider it. I think that rather than a maximum time period it is more about what hangs off that time period. Mr Riordan has been involved in a lot of the work on access undertakings.

**Mr Riordan**—It is going to be an active area of our consideration. As Mr Pearson said, I think it will depend a lot on what is undertaken.

**CHAIR**—Were you involved in any way with the implementation study and did you give any specific advice to that study?

**Mr Riordan**—We were asked to meet with the lead advisers to the study on a handful of occasions. We pointed out areas where they might be interested in following up or even advancing some views to them on the topics of the discussion.

**CHAIR**—Is this before the study was released?

**Mr Riordan**—Yes, whilst they were doing their fact finding.

**CHAIR**—Did you get a pre-release copy? Were you part of the government process that got it back in March, I think it was?

**Mr Riordan**—We received a limited number of copies on 30 March.

**CHAIR**—Did the study then sufficiently address any regulatory issues that you may have raised with them? Are you satisfied—

**Mr Riordan**—Yes, I think the study acknowledged those issues. A number of their findings, I think quite correctly, say that this will be an issue that will be dealt with through the regulatory process, and then they identified either the ACCC or the ACMA as the responsible regulator to come to a final view on those matters. I think we are satisfied that the matters that we raised have in some way been acknowledged.

**CHAIR**—Many of us, and indeed witnesses to this committee, have expressed some interest in, if not surprise at, the study's recommendation that the NBN Co. would increase its prices every year and then by doing that would eventually become commercial, it being acknowledged that in the early years there was very little chance of it being commercial in spite of the optimism when the proposal was first announced by the government. How does that suggestion that the monopoly wholesaler will increase its prices sit with the commission, bearing in mind that the history of pricing seems to have been contrary to that in the recent decade?

**Mr Riordan**—Probably the one thing to keep in mind is that the service that NBN Co. will be providing will be very much an access service. Whilst it is the case that average real prices for communication services generally have fallen as a result of competition, the access price faced by consumers has not fallen on an average basis. I think there was quite a significant increase over the early part of 2000 in access prices, and from then those prices have tended to stay fairly steady in average real terms. I am not sure whether it would be a significant reversal of pricing for, say, the access price offered by NBN Co. to stay in real terms at a steady rate. I think that would be consistent with—

**CHAIR**—But the implementation study was not suggesting it would stay at a steady rate; it was saying that it would increase, whereas the evidence seems to be that it is naturally going the other way.

**Mr Riordan**—I think you are right. I think that if I am correct—I do not have the figure to mind—I seem to recall that the percentage rate in real terms at which they were modelling the price increase was quite low.

**CHAIR**—It was two per cent, as I recall, but in real terms.

**Mr Riordan**—In real terms, yes. I think that for that to be compared in recent history there would be fairly much in real terms a constant price for access.

**CHAIR**—We are running out of time. If there is any agreement reached between Telstra and the NBN Co. regarding NBN acquiring Telstra's access network or Telstra permitting NBN's access, will any such agreement require your approval?

**Mr Pearson**—There may well be competition issues, under both section 50 and section 45 of the act, with the substantial lessening of competition. I think you have asked about how we assess it. I am happy to even take some of that on notice, but it is really a pretty basic look at the market, we try and get the dynamics of the market right and understand what it means and whether there is a substantial lessening of competition. In doing that you also look at the 'with and without' test; what are the alternatives? This would, I think, go back Senator Ludlam's issue about what you are looking at in terms of the market development. It would be a difficult issue to assess, but those sorts of agreements or that acquisition could come under the act.

**Senator FISHER**—Can I ask this: in the 'with and without' scenario, is that 'with' being a network where both Telstra and NBN Co., for example, have access versus one where only one provider has access? Is that what you mean?

**Mr Pearson**—Simply, yes. It might be a little bit more complicated, but basically yes.

**Senator FISHER**—Keep it simple, stupid. And, Mr Pearson, with all due respect, I am the stupid one in that.

**Mr Pearson**—That is pretty much what we would do, yes.

**Senator FISHER**—Thank you.

**CHAIR**—In that event, what process does the ACCC follow and is it a process that can, of necessity, be restricted in time? Is it something that could be done very quickly or is it likely to take weeks, months or years?

**Mr Pearson**—No. There is a section 50 issue; we have indicative timelines and our chairman is notorious for pushing us to meet those timelines, so on something this important you would think that six or eight weeks would be what we would be looking at initially. It may go longer. It depends. A lot of times they go longer because of the market response. The other thing we can do under the act is we can authorise potentially anti-competitive activities. We can authorise either mergers or section 45 agreements. That is a statutory time frame.

**Senator FISHER**—What? On the basis that they are in the public interest?

**Mr Pearson**—Yes. But it is a test, so you have—

**Senator FISHER**—Despite their being anticompetitive?

**Mr Pearson**—Again, you are trying to measure the public interest from the detriment to competition or the cost to competition.

**Senator FISHER**—How could you do that in the absence of a cost-benefit analysis, or would you have to do your own?

**Mr Pearson**—No. We rarely do an actual cost-benefit analysis in any of these. Our authorisation people do 40 or 50 of these a year, and maybe more, so it is—

**Senator FISHER**—‘These’ being ones approved in the public interest?

**Mr Pearson**—Sorry, authorisations.

**Senator FISHER**—In order for you to assess the public interest aspect, how could you do that in the absence of a cost-benefit analysis? You would have to do your own, would you not?

**Mr Pearson**—We would try to do some assessment of what the costs and benefits were. It is incumbent on those who bring it in to provide us with the information, and it is incumbent on those who oppose to provide us with information, because it is a very transparent process.

**Senator FISHER**—Does that mean it is incumbent on the government, as the incumbent, to provide you with a cost-benefit analysis for you to assess the public interest?

**Mr Pearson**—No, NBN Co. would have to provide us with arguments as to why they think it is in the public interest. I have been involved in cost-benefit analysis. I have both accounting and economics degrees. I was listening to the professor earlier talking about the issue in 2001 or something when Telstra was saying that broadband would not develop. If they had done a cost-benefit analysis then they would not have picked up any of the advances. You have to be careful. So what is a cost-benefit analysis and how much qualitative assessment goes in there? It is like a lot of the economics; it is not some pure, down from the—I hope my colleagues do not hear this—mountain thing. Maybe I will take that off the record. It is not so much a cost-benefit analysis as what NBN Co. would see as the benefits. It depends on the parties. If, for example, Telstra, just hypothetically, were doing it, would they have arguments to say, ‘Here is why’? They might say: ‘Look, the cost to us is that we won’t be able to compete. Our copper network is going to go down the drain; ergo, competition is going to fall apart anyway.’ I am not saying that is what they would say, but there are a lot of aspects that—

**Senator FISHER**—Have you not effectively said that, when ACCC assesses the public interest, a cost-benefit analysis forms part of that assessment? A cost-benefit analysis and the public interest are not necessarily one and the same—I would accept that—but have you not effectively already conceded that in your public interest test a cost-benefit analysis is a component of that?

**Mr Pearson**—No, I think what I have said is that it could be, but really the costs that we look at are the costs to competition rather than the benefits to the public interest. It is off a little bit to the side and above a pure cost-benefit analysis. Pure cost-benefit analysis would miss a lot of the qualitative public issues. A cost-benefit analysis would miss the ‘with and without’ test. It could be a bit misleading in terms of the competition analysis.

**Senator FISHER**—Yes, that is why I say it would be but a component of the broader public interest test that you would apply.

**Mr Pearson**—I would say it could be a component, but it is not an essential component; that kind of—

**CHAIR**—Our first witnesses indicated that the implementation study was done on the basis of a certain number of assumptions to get to the results that the implementation study got to. The suggestion was made that those same assumptions could be used if you had the workings—the detail of them—to then do a cost-benefit analysis, which would not take very long to do at all. Does that sound right to you?

**Mr Pearson**—I really would not know that. I have not really put my mind to that. It is not something we have actually looked at closely, because it is outside our remit, if you like, and so I am not sure. I do not know whether Mr Riordan has thought of that at all.

**CHAIR**—Following up on Senator Fisher’s line of questioning, for you to assess the issues we were talking about earlier, if you had the right computer modelling, which I understand is readily available, and if you fed in the assumptions used in the implementation study, which are there—whether the detailed workings are available—would that be something that you could usefully do to help direct your line of thinking on—



**Mr Riordan**—Yes, I think that would be quite useful in order to test the costs faced by NBN Co. in its business and also perhaps even the revenues that it might receive. I think the idea that we have been trying to convey is that a cost-benefit analysis would normally extend beyond just the benefits and costs to the business and would start to look at benefits and costs to the wider economy or to the customers who will benefit potentially from better services. It is those sorts of costs and benefits which I am not sure would naturally flow from just that analysis.

**CHAIR**—If there were a public interest component, again, what process do you follow and how long is that? Is it likely to be the same six to eight weeks?

**Mr Pearson**—I should know that. I think it is six months for an authorisation now.

**CHAIR**—So it is a statutory period?

**Mr Pearson**—It is a statutory time period. All submissions—unless there is something commercial-in-confidence, which could be redacted—go up on the website, there is an option for a pre-decision conference that can be called by any of the parties, and so the authorisation process is a highly transparent one. The merger process is not quite as transparent, but it is still pretty transparent, because a lot of the work goes up on the web. We put out a statement of issues so that, if there are any issues come out, they go out into the market and people are encouraged to respond to that. Over the past three or four years I think we have developed some pretty sophisticated communication through our mergers area.

**Senator FISHER**—How do you characterise your percentage of authorisation approvals as opposed to section 50 approvals? How do you describe that? I am trying to work out whether it would be unusual if you had to go the public interest route.

**Mr Pearson**—I do not know of one merger that has come in since I did one about 13 years ago. I would have to take that on notice. Section 50 authorisations are very rare. General authorisations are very common and authorisations around section 45 agreements or understandings are very common, but the actual merger is fairly uncommon. I could take that on notice, but I think the last one I worked on was Davids-QIW.

**Senator FISHER**—Why would this have to be a merger?

**Mr Pearson**—I was just saying it would be picked up under one of two heads of power; it might be picked up either under the section 45 agreements that may lead to a substantial lessening of competition or, depending on how it was structured, under section 50. You really would not know until you saw what the actual transaction was and whether—

**Senator FISHER**—This goes beyond my experience, which is not unusual, but is it possible that it would not fit in either? Do you ever have—

**Mr Pearson**—It is pretty rare. There may be things that, on the margins, we would like to capture that are not captured in terms of anticompetitive conduct, but section 45 and section 50 are pretty broad and they catch a lot. Between the two of them it is hard for me to imagine that it would not be caught. You have to have an agreement—

**Senator FISHER**—That would blow your expansive mind, would it?

**Mr Pearson**—Yes, a tiny little mind it is. Not that I know it all—not yet.

**Senator FISHER**—There will be a day.

**CHAIR**—We have run out of time. Can I put on notice—and you already have these—questions 1, 2 and 5 of the questions that I wanted to ask you, and which I have given you a copy.

**Senator FISHER**—I am not sure we exhausted question 1, Chair.

**CHAIR**—No, perhaps we did not.

**Senator FISHER**—I think we did 1(a); that might be about it.

**CHAIR**—Perhaps we did 1(a), (b) and (c). Anyhow, let me leave 1 in it, but I think we have done 5 and 6. Could you take on notice questions 1, 3, 4 and 6, and I will do that formally through the committee by tabling my questions to the secretariat.

**Senator FISHER**—I did ask much of question 3, but I do not mind gap fillers.

**Mr Pearson**—No, it is fine. We do not mind going through and filling those in and then if there is any—

**CHAIR**—Gentlemen, thank you very much for your cooperation. We really do appreciate the assistance you give to parliamentary committees generally but in our case and in this one in particular. Thank you very much for your time.

**Senator FISHER**—Thank you.

**Proceedings suspended from 1.04 pm to 1.42 pm**

**STANTON, Mr John Leslie, Chief Executive Officer, Communications Alliance Ltd**

**CHAIR**—We will resume. Senator Lundy is here, so we have a quorum. Mr Stanton, as this is the first time that you have been before a committee, I just want to make you aware that these are proceedings of the parliament and, therefore, parliamentary privilege applies. If there is anything that you would rather say in private, you need only ask the committee and we will consider it and possibly hold some evidence in camera. Also, it is an offence against the Senate rules for anyone to prejudice or impact upon you in any way for any evidence that you might have given to a Senate committee.

With those few rules and regulations, welcome; thank you very much for coming to give evidence. This is the Select Committee on the National Broadband Network. Already we have had a great number of hearings and issued a number of reports. We are directing this hearing, more or less, at the implementation study, but we are keen to hear your views on that and anything else that you think might be relevant. Would you like to make an opening statement and perhaps also tell us who and what you are and what the Communications Alliance is all about?

**Mr Stanton**—Thank you very much. I will start by thanking the committee for the opportunity to be here today. My name is John Stanton. I am the Chief Executive Officer of the Communications Alliance, which is the peak telecommunications industry body in Australia. Our membership is drawn from a wide cross-section of the industry. We have more than 50 telecommunications carriers as members; NBN Co., by the way, is also part of our member base. We have other service providers, vendors, equipment suppliers, consultants and individuals who together make up the organisation. Our mission is not only to provide a unified voice for the industry but also to promote the growth of the industry and the protection of consumer interests by fostering, through self-governance, the highest standards of business ethics and behaviour.

We have been very active on the NBN front. We have been leading industry activity and, in a sense, acting as a conduit for the industry into NBN Co. We have established seven working groups, which include more than 150 individuals from across the industry, providing input to NBN Co. on things such as wholesale services, end user premises, end user migration, technical issues, network architecture, fibre and greenfields, and other topics. It has been a substantial body of work and it is still going on today. Our focus as an industry body is to ensure that, if the NBN is built, it can work effectively as part of an end-to-end service. We have not delved into politics or debated the public policy issues or even the business case; rather, we have been focused on trying to ensure that there are practical solutions in place so that, when the network lights up, it can do so seamlessly and customers can gain maximum benefit from it.

One important new area of our work relating squarely to the implementation study is an initiative that I launched very recently to create a dialogue and education process for consumers of NBN based services. It is designed to ensure that consumers have the essential information that they will need to manage their overall communications experience in an NBN environment; in other words, it is to ensure that they know how to connect to the NBN, what their service options are, how to minimise the costs to themselves, what the options are in terms of things like in-house cabling and in-premises equipment, how to deal with multiple service providers and how to manage faults et cetera. That has been done because we see the NBN as a game-changing

event and, if we do not have a consumer base that has the information that it needs, the potential for confusion and inefficiency is enormous. I am really pleased to say that all of the stakeholders that I have approached to join me in this work have come on board. We have the consumer bodies ATUG and ACCAN; the Internet Society; the ACMA; the ACCC; the Department of Broadband, Communications and the Digital Economy; and also industry representatives who will join the work. For the reasons that I have outlined, we feel that this is a vital task and we have highlighted it in our response to the implementation study.

In responding to the study, many of our responses have been supportive of the work and the recommendations therein. I guess, almost inevitably, I would like to focus on a couple of those that we do not agree with. One of those is the somewhat famous recommendation 68—

**Senator FISHER**—Do you mean ‘infamous’?

**Mr Stanton**—I will stick with my construction, if I may, but thank you.

**Senator FISHER**—Well done!

**Mr Stanton**—In particular, it is the proposed discretion to allow the minister to make exceptions to allow NBN Co. to sell to entities other than carriers or service providers. I must preface my remarks by saying that we certainly appreciated the recent statement by the minister in which he said that he would take on board industry feedback before finalising the legislation.

To put this in context, I guess that it is worth noting that the NBN itself will change very little in Australia. What it does is create a platform on which change can occur, and that change will occur through the investments, the efforts and the innovation of carriers and service providers. Those players may find it more difficult to make those investments in a climate where the minister does have the ability at any time to change the market topography by letting NBN Co. ‘go retail’, as it has popularly been put. To foster the most vigorous competition in the market with the resulting benefits to customers, the industry participants need certainty, and we feel that recommendation 68 and clause 9.2 of the legislation remove some of that certainty.

I did read the *Hansard* transcript of the hearings that you held in Sydney recently and a relevant point jumped out of that transcript at me. It was in the evidence that you received from ATUG, in which, I think, the UK experience was held out as a bit of a shining example of why it is a good idea to let government departments turn themselves into mini-carriers and provide services to the bureaucracy. I was intrigued by that. I used to live in the UK and have some experience in dealing with UK government departments. So I went to do a little investigation, I guess, of the UK experience and, I must say, I found a somewhat different story. I talked to people in the UK who are directly involved in the process and the provision of services to government departments. It turns out that the procurement of wholesale services by government departments in the UK has been so piecemeal, so inefficient and so hopeless that the UK government is quietly dismantling that process and is in the process of setting up a new central government agency to take over that role; the working name for this is the PSN, or ‘public service network’. I do not believe that too much has been announced about this as yet, but I would be happy to provide further information to the committee as it becomes available. But, to me, it was certainly instructive as to whether it was necessarily a good idea to let government departments move into that role. It is worth noting also that—

**Senator LUNDY**—I am sorry; what did you just say?

**Mr Stanton**—I thought it was instructive as to whether it is a good idea to necessarily let government departments become carriers in their own right.

**Senator FISHER**—I think you heard correctly, Senator Lundy.

**CHAIR**—Keep going, Mr Stanton. We will have questions when you have finished.

**Mr Stanton**—There is just one more recommendation of concern, if I may, and that is recommendation 15, which seeks to require that the topology that is deployed in the new development should be home run rather than shared.

**CHAIR**—Should be what?

**Mr Stanton**—Home run as opposed to shared. We disagree with this recommendation for a range of reasons, including green related issues, cost and complexity. I would be happy to elaborate on those, if the committee desires.

**CHAIR**—Firstly, are Telstra and Optus a couple of your members?

**Mr Stanton**—Indeed.

**CHAIR**—You are funded by a levy, in one form or another, of all of your members.

**Mr Stanton**—That is right.

**CHAIR**—Just on the central PSN—I raised this earlier—someone who made a submission to us mentioned the Intra Government Communications Network in Australia, whose acronym is ICON. Are you aware of ICON?

**Mr Stanton**—I am aware of it, yes. I am not intimately familiar with it, but I know what it does.

**CHAIR**—Would that be similar to the proposition in the UK that either was or is going to be?

**Mr Stanton**—I do not believe that it necessarily is, in the sense that ICON, as I understand it, is a dark fibre network connecting government departments and is used for a range of different applications, some of them data related and some PABX related, whereas, I am told, the agency that is being set up in the UK is to manage the overall telecom-services-buying requirements of government departments.

**CHAIR**—So, in the UK, it is a sort of wholesaler and retailer to government, is it?

**Mr Stanton**—As it was described to me, it would be an agency that would buy on behalf of all departments. So it is really a procurement agency to ensure that the departments are buying telecom services at the right price and in a way that is consistent.

**CHAIR**—From retailers?

**Mr Stanton**—From RSPs of the likes of BT or Openreach.

**CHAIR**—So they own the dark fibre or layer 1; is that right?

**Mr Stanton**—I think it varies from department to department in terms of whether they have any infrastructure themselves; I think the Foreign and Commonwealth Office, for example, does have some assets of its own. But this agency, as described to me, would be designed to procure services from RSPs for the departments.

**Senator LUDLAM**—You are a kind of United Nations of the telco sector, I guess. You have folk who are quite often taking contrary positions in the public domain, but you manage to hold it together. Do all your members sign off on a process of consent before you put in a submission, such as the one that you have put in to the implementation study? How do you manage that?

**Mr Stanton**—No. We throw it open for comment from the membership, and silence is assent.

**Senator LUDLAM**—I want to pick up on one point that you make in response to recommendation 78; it talks about a pre-privatisation review to make sure that the market is going to function post privatisation. I think your comment is that the requirement would ‘ideally be included in the establishing legislation to ensure it is binding on future governments’. Can we just tease out what you mean by that and whether it is fair to say that, in that case, the sector is of one mind that we need some kind of binding restraint on government from selling the network down, at least until that assessment has been done?

**Mr Stanton**—In fact, in terms of our response to the committee, we made no comment on that recommendation.

**Senator LUDLAM**—That is interesting. What about in your submission to the department on the implementation study?

**Mr Stanton**—We simply said, ‘Communications Alliance has no comment to make on this recommendation at this time.’

**Senator LUDLAM**—That is very interesting. I am reading off the screen here. I might go to another question. I certainly do not want to quote you out of context or misquote you if that is not there. As far as you are concerned, am I misquoting you? Is that not the view of the Communications Alliance?

**Mr Stanton**—We did not seek to make a full response on that issue. Because of the diversity of our membership, there are often issues on which we choose not to comment, either because there is not a consensus or we do not feel that it is part of our mission.

**Senator LUDLAM**—Yes; I was a bit surprised to see that there. I am going to chase that down, and I will offer you an apology if I find that I am quoting you completely out of turn.

**Mr Stanton**—Not at all.

**Senator LUDLAM**—Just to pick up, then, on the issue of the NBN Co. being able to provide services to those other than carriers and service providers, my understanding of the intent of the government's proposition that we have seen in the draft bills is that they are offering a level-2 bit stream to big organisations like government departments, rather than taking up full-blown retail services. Is that how you read it?

**Mr Stanton**—That would be my understanding, yes.

**Senator LUDLAM**—But do you still see that as a dangerous extension of the NBN Co.'s proposed mandate or role?

**Mr Stanton**—One of the considerations is practical, because nobody will be given an end-to-end service by NBN Co. Think about what an entity like a department would need to do if it were buying wholesale services from NBN Co. to turn that into, effectively, a retail service. It is a pretty sophisticated process. Firstly, they would need to have an agreement with someone for an upstream connection to the internet. They would need to have in place agreements with one or more third-party providers of backhaul. They would need a broadband access gateway. They would need equipment in the POIs across the country. They would need aggregation equipment, a network management system and racks in data centres—a fairly sophisticated infrastructure of their own. I guess the question is whether that makes sense at the end of the day. Our objection really was more to the uncertainty that the discretion provides than to whether those entities are able to buy at the wholesale level.

**Senator LUDLAM**—That it would be case by case, on the basis of the ministerial mood of the day.

**Mr Stanton**—Yes—simply the fact that it does remove some of the certainty as to what is your addressable market as a service provider.

**Senator LUDLAM**—Given the diversity and the range of members that you have, you are generally supportive of the existence of the NBN and of the Commonwealth taking a position of this sort, although there are some debates around the edges. Is that a fair characterisation?

**Mr Stanton**—We have certainly put a lot of effort into helping to make it a successful entity. We see it as a game-changing event and a technology that will have benefits for the country. We have not chosen to try to opine on whether it is the best possible solution or whether there are or are not other solutions. We are really dealing with the government decision as it stands.

**Senator LUDLAM**—That is fair enough. I will just play devil's advocate for a moment. We have had commentators and a couple of economists in here this morning making some quite strong claims about the unreliability of the government's numbers in the implementation study and that it will not be a profit-making business and will actually run at a loss. One commentator has even suggested that it is going to need to be bailed out by the taxpayer. The devil's advocate part is that your industry stands to gain a lot from the Commonwealth making this investment in backhaul and taking glass all the way up to the house. Are you arguing here from a point of view of pure self-interest, or have you actually gone through and forensically analysed the government's numbers?

**Mr Stanton**—No, we have not taken a position on the business case. We have looked at the numbers, and I think probably the best comment I can make is that we agree with the implementation study authors when they say that there are a great many risks and a great many challenges to be dealt with and managed during the course of this build.

**Senator LUDLAM**—Communications Alliance Ltd—we are talking about the right thing, aren't we?

**Mr Stanton**—Yes.

**Senator LUDLAM**—I have just had somebody take a quick look at your whole submission rather than just cherry picking a little piece of it. I have been informed that, in fact, in your submission on the idea of binding future governments to that pre-privatisation review that was recommended by the consultants, you have said both things. Let me get it in front of me; I was actually reliably quoting from your submission. You also have said cautiously that you do not want to take a strong position on it but that, in fact:

This requirement would ideally be included in the establishing legislation to ensure that it is binding on future governments.

I am quoting you directly from your submission—not the one to this committee but the one to the implementation study. I think it is probably worth putting that on the record.

**Mr Stanton**—I will certainly go back and look at that. There may be some commentary there that the position submitted by us was that we did not want to make a response to that recommendation.

**Senator LUDLAM**—It is at page 55. I might come back to that later, but I will yield to some other questions, if you like.

**Senator FISHER**—Perhaps I can follow on from Senator Ludlam. Mr Stanton, I am not really reassured, I suppose. I will put it this way: your members have a vested interest in 'something, anything' activity in this sector, so why would you not support 'something, anything' as opposed to something that is actually good?

**Mr Stanton**—I am not entirely sure that I understand the question.

**Senator FISHER**—I admit that it was a bit obtuse. You said earlier that you had chosen not to opine on whether the NBN is best or not; I think that is pretty important. Isn't it the main question, or are you, I guess, subjugating that question to your members' vested interests in something going ahead—it does not really matter whether it is the best or not?

**Mr Stanton**—If our membership had significant misgivings about whether the technical solution being proposed here was workable or not, we would certainly reflect that. But, in terms of the high-level architecture and the information that we are starting to get now about what the network will look like from a physical and interconnection point of view, we are reasonably confident that it is fit for purpose. We are continuing technical work with NBN Co. on a range of issues, but we have been comfortable in working to try to make this network the best it can be.



**Senator FISHER**—So are you saying that, if it were to be delivered and Australia were to get to the NBN end point, it would work?

**Mr Stanton**—If Australia were to get to the NBN end point, it would work?

**Senator FISHER**—You are saying that technically it will work. On what basis are you able to say—and maybe you are not able to say—that the result will even be achieved? It is like: if we get to utopia, that would be great, but are we going to get to utopia? Give me some confidence that your members believe that there is a pathway for that.

**Mr Stanton**—My members will not be responsible for the build, by and large, although a couple of our members are involved in the rollout in Tasmania, so some of our members will have some involvement in that. But, by and large, it is not the RSPs who will build this network, so we cannot project whether it will be completed on time or within budget and we cannot predict how many lessons learned along the way will have impacts on the actual detail of the rollout. So far, from what we have seen in terms of the fibre element of the design, it is a workable design. We have not yet seen the responses to the satellite tender—I think enough of our membership knows enough about Ka-band satellite technology to know that it ought to be feasible to create a service, but we need to see what comes back from the respondents to that tender—nor have we seen, of course, the detail of the wireless component, which will be the subject of further activity down the track.

**Senator FISHER**—Who are your members?

**Mr Stanton**—We have, I think, 53 telecommunications carriers. They include the big ones like Telstra, Optus and AAPT—

**Senator FISHER**—Yes, you said that earlier.

**Mr Stanton**—and a lot of the tier-2 and tier-3 players. We have a lot of the larger vendors of the likes of Ericsson and Alcatel-Lucent, for example; we have ISPs; we have consultants; and we have individuals.

**Senator FISHER**—And I guess you have collective groups as well. Are other alliances members of yours?

**Mr Stanton**—Not specifically. We have members that include organisations like the CSIRO.

**Senator FISHER**—So other collective organisations within the telecommunications sector are not members of yours?

**CHAIR**—You have mentioned ATUG.

**Senator FISHER**—Exactly.

**Mr Stanton**—Yes, we work closely with people like ATUG and ISOC and now ACCAN.

**Senator FISHER**—And are they members of yours?

**Mr Stanton**—ACCAN is not a member, no.

**Senator FISHER**—Right, but ATUG is. I am just trying to evaluate, therefore, the extent to which you are representing carriers and service providers per se as well as having inputs from others out of your 53 groups.

**Mr Stanton**—We are predominantly an industry association.

**Senator FISHER**—You are, but, in general parlance, industry associations are members of yours as well. I would characterise ATUG as an industry association, in general terms.

**Mr Stanton**—It is a users group.

**Senator FISHER**—Yes, and it is a member of yours as well, as opposed to, as I say, carriers and service providers.

**Mr Stanton**—I am aiming to clarify: ATUG was a member our board some years ago and it is not a member of our board now. I am not certain that it is still even a member, actually. Perhaps I may take that on notice.

**Senator FISHER**—Certainly. I guess the point is that your organisation is open to membership from organisations of that nature.

**Mr Stanton**—Yes.

**Senator FISHER**—Do you have a memorandum of association?

**Mr Stanton**—We have a constitution.

**Senator FISHER**—You must have eligibility rules or something.

**Mr Stanton**—Yes.

**Senator FISHER**—Can you perhaps provide us with a copy of the relevant clause?

**Mr Stanton**—Certainly.

**Senator FISHER**—I am sorry; that would be on the public record, anyway, wouldn't it, if we went and had a look?

**Mr Stanton**—Yes; but I am happy to provide it to you.

**Senator FISHER**—Thank you. I do not want to intrude inappropriately. Chair, that is all for now.

**CHAIR**—At the start of your evidence, you said that one of your roles was to make information available. What part did you play, for example, at hearings a month or so ago?

Neither NBN nor the retailers could tell me at that stage what they were offering to Tasmania, because nobody knew the pricings. Then—I think in the last couple of weeks—there have been pricings. Also, at estimates, NBN Co. said that, for the first six or nine months or something, they were not charging the retail service providers anything for their network, except for a \$300 connection fee. Are you engaged in making that new information available to Tasmania—bearing in mind that, by making it available, you will be supporting some of your members and impacting upon the business of others?

**Mr Stanton**—At this stage, we are not involved in disseminating any information to consumers in Tasmania. The initiative that I have just launched, which will meet for the first time next week, will put together an overall dialogue and information plan as well as a channel strategy as to how that is to be disseminated. So it is not impossible that in the future that type of activity would come out of that initiative, but so far it has not.

**CHAIR**—But you are there talking up—perhaps that has challenged me if it is not being delivered—the NBN but, in so doing, some of your members will miss out. For example, I understand that in Tasmania there are only three retail service providers, which means that there are 51 that are not part of the ‘deal’. Is that correct and, if it is, how do you cope with that?

**Mr Stanton**—We have not had to cope with it as yet, because we have not provided any information in Tasmania. In terms of the rollout and the early-stage deployment sites on the mainland, the group that I have pulled together will have to decide how best to get the relevant information to those people. Part of what we will be doing is creating a consistent messaging platform, recognising that most or a lot of this information will come from the RSPs themselves as they look for new customers or try to draw customers across.

**CHAIR**—But then what information are you disseminating? Surely the two questions that the public at large—not the aficionados—would have to ask are, firstly, ‘What will I get out of this that I do not already get?’ and, secondly, ‘What will it cost me?’ Then, having got those two things, you make an assessment: ‘Well, for that cost, am I prepared to pay, or will I stay where I am?’ So what information can you deliver to me as a member of the public that would help me in making some decisions on what I should do?

**Mr Stanton**—There may well be many other questions you will want to ask. For example, you might want to understand what your options are in terms of cabling within your house, whether your network termination unit is going to be outside or inside of the house, how you manage the fact that you have one or more different service providers providing different services to your house, whether you can continue to use the equipment that you have today or whether you need new equipment, or what you will do if there is a fault. There is a whole raft of questions.

**CHAIR**—Do you have the answers to all of those questions?

**Mr Stanton**—We are compiling the answers to all of those questions, yes.

**CHAIR**—Will you disseminate them? Is there a booklet or a website? Bearing in mind that I am told in the implementation study commentary that 22 per cent of Australians do not have

websites and 28 per cent do not have computers—or the other way around—perhaps a website is not always the best way to disseminate information.

**Mr Stanton**—We will examine all the available channels. Websites are certainly one of them, as is below-the-line literature, such as brochures, and involvement in community forums that the government will be running around the country. There will be ways to inject this information into the messaging of all the RSPs who will be trawling the landscape looking for customers. We may use blogs, Twitter, Facebook and other forms of social media.

**CHAIR**—It is going to be interesting watching you ride the barbed-wire fence, I would think—and good luck to you. But are you in a position now to answer me this fairly basic question? Suppose that I were a user, a consumer, in a capital city area—which I am not—and currently living close enough to an exchange to have a you-beaut ADSL2 provision for my emails and the little bit that I do on the worldwide web, with all that working beautifully for me because I am probably getting pretty good speed at the moment. Do you have information that would say, ‘Yes, but if you had fibre to your home you would get a better service at a price better, worse, richer or poorer than you are currently paying for your ADSL2’?

**Senator FISHER**—Or that would encourage you to take it up, basically.

**Mr Stanton**—It would be difficult for us to try to get into the game of providing real-time price information to customers in an attempt to influence their decision, because that is a variable that will continue to change. We would be able to describe the characteristics and capabilities of the network but, again, it will depend on the particular service mix that retail service providers are offering; they will all have their own kind of sizzle, if you like, with their own set of service and product characteristics.

**CHAIR**—I am sure that you will tell me straight away if you cannot answer any of my questions but, being more specific, I have been trying to understand why you would pay what I believe would be a bigger fee to RSPs using the NBN, if the NBN were charging commercial values, as opposed to my existing service over ADSL2. I have used some figures—and, for the record, I should say that I, perhaps foolishly, mentioned Primus Telecom and obviously got some of the figures wrong. I have apologised to Primus Telecom for that and there is a letter to that effect in the committee’s records; I just put that on the record again. I appreciate that every RSP will have a different package to put to me, but my concern is that surely it is going to cost me more to be connected through a wholesale set-up that has cost \$43 billion than to be connected with a set-up that was paid for years ago and for which a return on capital is not needed.

**Mr Stanton**—There are a few variables there. I cannot make the assumption that you necessarily are going to pay more for an NBN service. The implementation study speaks of a philosophy of providing similar price points to those that exist in the market today.

**Senator FISHER**—Can you assume at least that?

**Mr Stanton**—If you look at the sorts of wholesale price points that are being talked about in the implementation study, you will see that they are not wildly different from the wholesale price points that exist today.

**CHAIR**—But that is my point. To get the fibre to your home, you have to pay your share of the \$43 billion. So any commercial reality would suggest that the existing RSPs are making super profits—

**Senator FISHER**—A motza.

**CHAIR**—on which very shortly they will be subject to a tax, I am sure—

**Senator FISHER**—Yes, of course.

**CHAIR**—and that the NBN simply cannot be commercial. It may operate, but this was all announced, with great gusto, on the basis of it being a commercial stand-alone operation by this government corporation.

**Mr Stanton**—In a previous life I ran a listed telco in Australia, which was reselling wholesale services from the major carriers, and I can at least offer the advice that it is extremely difficult to make a motza doing that; the margins in that part of the game are reasonably tight. The question as to whether consumers necessarily need to pay more for an NBN based service because of the investment that has been made in that network is not one that I can answer; it goes to the business case and the decision that NBN Co. makes about pricing.

**CHAIR**—From your obviously very intimate involvement in the whole industry, are you aware whether the NBN Tasmanian proposal not to charge, as I understand, for the use of its equipment, apart from a one-off connection fee, is going to be the deal on mainland Australia when it eventually launches; and, if so, with that sort of income return, how can NBN even pay its interest, let alone make a profit?

**Mr Stanton**—I am afraid that I have not been advised by NBN Co. whether they will replicate that offer for the early stage deployments on the mainland.

**CHAIR**—Who is next? We are sharing the questioning around very fairly.

**Senator LUDLAM**—I have had a go already, but I would not mind clarifying a point; I am not even sure that this is a question. I might have muddied the waters a little bit before with my comments about what was in your submission, and that might have been because I was just misreading the way that you have formatted your document. For the recommendation around the purposes of safeguarding competition outcomes in the event of the privatisation by NBN Co., you have some quite useful feedback in your implementation considerations but, when it comes to a formal response, you have said that you have no comment to make. What is the status of ‘implementation considerations’—because, to me they read as fairly sensible commentary or, in a way, a response? I just wonder what distinction you draw.

**Mr Stanton**—The officer who was putting the response together, I think, for some of the recommendations made some points for discussion or observations, but the issue of whether to take a position or not was decided recommendation by recommendation. Probably to at least a third of the recommendations we chose not to respond.

**Senator LUDLAM**—I was not trying to put you on the spot there, but I take it then that that is not the position of the Communications Alliance but your offering advice to the government on how to handle that recommendation.

**Mr Stanton**—I guess that it is a point of view without it being a position of the organisation.

**Senator LUDLAM**—I will treat it as such. Thank you for clarifying that. I have no further questions.

**CHAIR**—Your study of the implementation study has obviously been an intense one.

**Mr Stanton**—We have certainly worked through it in a fair bit of detail in order to provide a response, or not, on each recommendation.

**CHAIR**—A lot of assumptions are made in the implementation study, such as those regarding take-up rates, access and the costings that NBN might be able to charge. There has been some commentary that the implementation study talks about, I think, 50 per cent, 70 per cent and 90 per cent take-up rates over various years as opposed to what some commentators say is the Dutch and American experience, which is that it is only 40 per cent. There are other assumptions that NBN would be able to increase its fees by at least two per cent—I think it was said somewhere—over many years. Do you have any comment on those two and other assumptions made by the implementation study in delivering its report?

**Mr Stanton**—We have relatively little to offer on that front. Certainly I did look at the take-up rates in the international examples provided, and the projected range within the implementation study did not jar us in particular; it sounds like a possible scenario. There is a question in my mind as to whether that will be a particularly linear experience. One of our members made what I think is an excellent observation recently when he talked about the fact that the NBN Co., being a network whose parameters are well known and stable, will be a much more fertile ground for the development of applications than the existing series of networks in Australia. He made the analogy that it will be a bit like the iPhone. People are buying iPhones not because they are good phones on which to make telephone calls but because of the wonder of the applications. The fact of the NBN Co. being a stable environment like that will foster application development. But he said that will probably take six years. So for a number of years you will see not much movement and then suddenly, at the applications level, it will explode and people will be much more inclined to take up services. So you may see some differing rates of growth over a 10-year profile, for example.

**CHAIR**—Mind you, you make a good point with the iPhone. That, of course, is a wireless technology, which will not be interested at all in the NBN's offerings. But, again, I should not ask you to comment on that. Thank you very much for coming along and helping us. It has been good to see you.

[2.25 pm]

**SHERIDAN, Mr Andrew, General Manager, Interconnect and Economic Regulation, Optus**

**WAGG, Dr Michael, General Manager, National Broadband Network, Optus**

**CHAIR**—Thanks very much for coming along. We have seen a bit of you over the period. As we reach our final witness for our final hearing, thanks very much for your contribution so far. I think you are aware of the rules of the Senate, so I will not repeat them. Perhaps I could ask you to make an opening statement?

**Mr Sheridan**—Thanks very much. First, thank you for the opportunity to appear before the committee again. As the committee is aware, Optus strongly supports the building of a wholesale-only, open-access national broadband network that will deliver superfast broadband services to homes and businesses right across Australia. We believe that the government's proposed NBN has the potential to positively reshape the fixed-line telecommunications sector in this country, delivering clear benefits to Australian consumers and businesses. However, to deliver on its promised benefits, important decisions need to be made concerning technology choices, the appropriate access and governance arrangements for the NBN, the services to be offered and the pricing of those services, ensuring the NBN is appropriately funded, and developing an operational and rollout plan.

The implementations to these are a valuable contribution towards resolving the longstanding debate on many of these issues. Optus welcomes the key recommendations made relating to how the NBN can best be implemented to deliver the government's key competition objectives for this critical new piece of national infrastructure. Optus strongly supports the overall conclusion of the study that, 'A wholesale-only equivalent open-access network providing superfast broadband services to all Australians is indeed viable'. Importantly, Optus commends the conclusion that 'the NBN can be economically viable whilst providing services to all Australians at prices they can afford'.

As the study recognises, affordability will be essential to the healthy take-up of services on the National Broadband Network and thereby delivering against the government's overriding social policy objectives for this network. For too long Australians have been denied the benefits that a competitive and innovative broadband market can deliver by Telstra's self-serving interest in preserving the status quo. Optus agrees with the study's conclusions that 'the NBN has the power to fundamentally reform the market for all Australians and, more importantly, that this can be done with or without Telstra's participation'. Optus strongly recommends that the government takes on board many of the conclusions and recommendations of the study to end the debate and get on with the job of building a first-class network that will hasten the critical reform that this industry and our sector so desperately need. Thank you.

**CHAIR**—Thanks very much. Does Optus have any services that you deliver directly to consumers without accessing Telstra's backbone network?

**Mr Sheridan**—Yes, we do. We have a hybrid fibre coaxial network in Sydney, Melbourne and Brisbane. That delivers services directly to around a footprint of about 1.4 million homes.

**CHAIR**—I am not sure whether you would have the figure with you here, or whether you would even want to do it, but you would be charging a certain rate for a standard service. Correct me if I am wrong, but would the standard service mean the fixed line telephone, a broadband service and perhaps a mobile?

**Mr Sheridan**—Yes, I can help you out there. Over our HFC network, as we call it, which delivers services directly to consumers, we offer a range of different packages which can deliver in combination voice services, pay television services and high speed broadband services. There is a range of different pricing packages depending upon the nature of the particular bundle of services you take or the length of the particular contract.

**CHAIR**—This is the bit I can never understand. You have paid for your infrastructure, or you have included it in your costings, but a competitor of yours who is going to deliver the same service to me through the NBN has to somewhere accommodate a \$43 billion capital investment on which they have to get some sort of return. How can they possibly offer me a price comparable to what you would charge me for your HFC service at the moment?

**Mr Sheridan**—I will make a couple of observations. I think it is important to reflect on the fact that, as I indicated, whilst the Optus HFC network is quite extensive, it is nevertheless limited in terms of population coverage.

**CHAIR**—My question relates to those 1.4 million out of Australia's nine million family homes to whom you are delivering. For those 1.4 million, why would I even go close to looking at a service delivered by a competitor through the NBN?

**Mr Sheridan**—Sorry, I do not quite understand the question.

**CHAIR**—If I am one of those 1.4 million, I have a superfast connection, 20 or 50 megabits per second, I assume; I have all of the other services and I have them at a price. If a retailer using NBN knocks on my door and says, 'I know you are with Optus now, but here's a better deal,' how can they possibly give me a better deal than you have already given me with what is in fact a vertically integrated service yourself?

**Mr Sheridan**—I will make a couple of observations to perhaps help answer the question. It is absolutely critical that, for the NBN to be a success, the wholesale prices on that network are such that they will be affordable to end users. I think we have made that very clear in our comments on the implementation study.

**CHAIR**—But Optus has spent a hell of a lot on what you are providing for those, but you would not have spent \$43 billion?

**Mr Sheridan**—The second point I was going to make in terms of directly answering your question was that the scale of the NBN is much bigger than the scale of the Optus network. The scale advantage that it will have, because it will over time deliver services to 100 per cent of the population, will give it the ability to set prices at an affordable level. It is important to know that



the study clearly makes that important point about the need for NBN Co. to price services at an affordable level. Related to that, it also makes a very important assumption that we need to put the social policy objectives of the NBN ahead of the commercial objectives at least for the short term, because that will—

**CHAIR**—But Optus will not do that. You are there to make money for your shareholders.

**Mr Sheridan**—Certainly Optus will be there to make money for our shareholders, but we will also be looking to take services on the National Broadband Network. To ensure that those services are going to be bought by end customers, we need to know that the wholesale prices will be affordable. Hopefully, if this network is a success, we will be in competition with a raft of other retail service providers and, therefore, if we tried to sort of charge monopoly rent or what have you—in fact, we will not be able to—and tried to set prices too high, we would lose customers.

**CHAIR**—This is the bit I cannot understand. You have 1.4 million customers already signed up very happily to a very good service at what I assume is a competitive price; Telstra would have at least that many. I estimate that there are nine million, but I might be out by a million, so the market is not terribly big. How is it possible that anyone is going to leave you, Telstra or iiNet or whoever has a similar service to you currently to go onto this wholesale network that has cost \$43 billion to build? The government has said it will be commercial, so it has to at least pay its interest and some return on capital. It just does not make sense to me.

**Mr Sheridan**—First, a point of clarification: I said that Optus's network could serve up to 1.4 million customers. We do not actually have 1.4 million customers using services on that network.

**CHAIR**—Okay.

**Mr Sheridan**—It is around 500,000. We have looked at the information that has been made available from the study. We have done our own internal assessments because we are experienced in terms of rolling out and managing networks. We believe, given a certain set of assumptions, that the NBN is a viable proposition. I think it is important to remember two things. The first is that the copper network is near the end of its useful economic life. Telstra has been on record many times over the last five years stating that we are five to midnight in terms of the copper loop. Its capacity to grow has really been reached. The National Broadband Network is a fibre network that will have a long upgrade path. It will be around in 30, 40 or 50 years time. When you look at this project over that lifetime, it is entirely reasonable to think that 75 per cent of customers or more will be taking their services from this network and, therefore, over the long term this network will have very strong cash flows and will be viable.

**CHAIR**—You might not want to answer this, but would you eventually intend to move your 500,000 existing customers on your HFC network over to the NBN in the fullness of time?

**Mr Sheridan**—I cannot answer that question directly, because I am not in a position to answer it. I think it is important to say that Optus certainly would have plans to use the National Broadband Network.

**CHAIR**—Of course, outside your 1.4 million opportunity.

**Mr Sheridan**—I think it is important to know that that would give us a much more extensive footprint than the HFC network that we have today.

**CHAIR**—Seriously, of your 500,000—and let us assume that Telstra has only the same, 500,000, that are served directly from them—none will switch over, because NBN cannot offer the same price as you can currently offer because you have paid for yours.

**Mr Sheridan**—I think the NBN has to offer comparable prices in the market today to be able—

**CHAIR**—They cannot possibly pay their way if they are matching your prices for something you have paid for years ago?

**Mr Sheridan**—If you look at the business case and the information that has been put forward in the study, the study says that, given a certain set of wholesale prices and some certain assumptions around take-up, this network will be viable. We have looked at those assumptions and we think they are reasonable. To look at the first point about the level of access pricing, the study does not put forward what the NBN pricing will be, but it makes some assumptions, and it says, 'If its services are priced around \$35 to \$45 then these take-up levels will be achieved.' We think both of those are reasonable. At \$35 to \$45, you will be able to support the sorts of retail offers that you have in the market today, and here is the important thing: for many customers, you will be able to get more for the same price you are paying today.

**CHAIR**—If you want more.

**Mr Sheridan**—I think the speed capability is going to be higher on the National Broadband Network, and I think it is also going to be much more—

**CHAIR**—But not higher than your HFC thing?

**Mr Sheridan**—Yes, it will be.

**CHAIR**—What speed do you get on the HFC, approximately?

**Dr Wagg**—Currently we are of the order of 20 megabits per second, but that is shared amongst a whole pile of users. We have announced we will be upgrading to over 100 megabits per second shared across users. We do see the fibre network will be at least one or two orders of magnitude higher in speed than what you will be able to achieve.

**CHAIR**—Why would Optus then be spending money upgrading to 100 when you can switch over to NBN? It does not make sense.

**Dr Wagg**—We can do that now. The NBN is a rollout over many years. We are looking to serve our existing customer needs, and we continue to look at all methods by which we can best provide services to our customers over time. The NBN is a rollout over quite a number of years.

Certainly we need to support our customers today and what they need, and speed is one of those things that we can provide to them.

**CHAIR**—Thanks for your patience in dealing with my questions. Still in my simple mind, I cannot see NBN getting the take-up that has been assessed, for the reason I mentioned. But you disagree.

**Mr Sheridan**—Can I just make one final observation in respect of that.

**CHAIR**—Yes.

**Mr Sheridan**—In 30 years time this network will still be there. It will be delivering much greater capacity than we have envisaged today. The copper will not be around. I think we will see that a very high proportion of Australian consumers and businesses will be on this network and taking services. There will be private sector investment into it, because it will have a very strong cash flow.

**CHAIR**—Mr Sheridan, I think in 30 years time we will be using forms of communication that none of us can even dream of today, as happened 30 years ago.

**Senator LUDLAM**—I will get a couple of quick questions in, and then I have to catch a plane.

**CHAIR**—I am sorry; I should have put you on earlier.

**Senator LUDLAM**—No, that is fine. I think it is quite important for Mr Stanton's future job security that I do not misquote him. I want to put on the record that the language I was reading in before was actually contained in the implementation study itself, not in the Communications Alliance submission. That is just to clarify that, so that the poor fellow is not sacked. On the other hand, Optus has taken a fairly clear position, so this goes to the implementation study and the consultant's recommendation that there be a rebuttable presumption that the infrastructure be retained in public hands pending, effectively, a public interest test, although they might not phrase it that way. They are talking about the competitive structure of the market. You have agreed with that recommendation. Can you sketch for us why that is so?

**Mr Sheridan**—I think you are talking about recommendation 78?

**Senator LUDLAM**—Recommendations 78 and 79.

**Mr Sheridan**—I think it is fair to say that we have agreed with that. We have said that, before there is ultimately a government sell-down of its interest in the National Broadband Network, we think it would be appropriate to have a look at the competitive environment at that point in time. We have reached that conclusion because of the unique nature of this network. It will be the owner and operator of a bottleneck infrastructure. Therefore we think that it is important to have a look at the competition implications of any sell-down before that occurs. I think we have probably gone a little bit further and said that we think some of the competition issues are so critical that there should be some limits imposed in terms of retail telecommunications providers taking a stake in the National Broadband Network on privatisation. We have certainly supported

the study's recommendation for a 15 per cent equity cap on retail telecommunications investment in the National Broadband Network company.

**Senator LUDLAM**—What if the network stays in public hands? If such a competitive test finds that it is not a good idea to sell the network down, and the Commonwealth hangs on to 51 per cent, what kind of cap do you think should apply to retailers in that case?

**Mr Sheridan**—We still think there should be a 15 per cent equity cap.

**Senator LUDLAM**—Presumably that would include Telstra if they decided to take an equity position in NBN Co.?

**Mr Sheridan**—It would include Telstra, it would include Optus and it would include other providers at that particular point in time, whoever they may be.

**Senator LUDLAM**—I should not be characterising what the implementation study said as a public interest test, because that is not really what it is, and it is not what you are referring to. What do you think about broader public interest concerns, such as social inclusion and governance, that go beyond the pure competitive questions? Should those things be assessed as well? Do you have a view one way or the other?

**Mr Sheridan**—I do not think we have taken a view on that at this stage. Certainly that is not something that has come up in terms of the study. That said, I think obviously there are a number of important recommendations, for example, about universal service obligations et cetera. I think we are on record in our submission as saying that we need to address those sorts of issues now. Clearly, as we transition towards a national broadband network, that will have an impact in terms of how USO and other services and obligations that exist today will be delivered in the future. So I think it is probably important for the industry to sort out what will happen to those up-front and to provide certainty for the industry and, probably more importantly to your point, for consumers.

**Senator LUDLAM**—What about the governance aspects? I guess I would say this, being on this side of the table, but I think it is enormously helpful to be able to get Mr Quigley into regular estimates committee hearings and explain the expenditure of public funds and what exactly they are doing with the business. Given that they hold a natural monopoly infrastructure, do you think there are likely to be some governance advantages in keeping that parliamentary oversight in place?

**Mr Sheridan**—I think it is fair to say that we have not considered your question directly in terms of thinking about our response to the study. That recommendation did not come up. One observation I would make is that, given the nature of this network as a piece of national infrastructure which will largely be a bottleneck infrastructure, it will be absolutely important that we have prudence tests, for example, over the expenditure of this network. One recommendation that we have put forward is that the ACCC, for example, would have some regular oversight in terms of making sure that NBN Co. is spending its money in an economically and socially efficient manner, so that ultimately prices are kept affordable and we can reach the sorts of take-up levels that we expect to achieve for this network.

**Senator LUDLAM**—If we do not get those take-up levels, the whole exercise will be a bit of a disaster, I would say.

**Mr Sheridan**—That is right.

**Senator LUDLAM**—That sounds reasonable. Do you agree with the general principle that the private sector probably was not going to get around to laying out fibre optic cable to Leonora and that there is an appropriate role for government to step in to roll out this infrastructure not just in the inner cities but further than markets were probably going to get around to doing?

**Mr Sheridan**—I think that is fair to say. I think the study has clearly indicated that, in terms of this network, there is a key balance to be taken between affordability on the one hand and achieving a return on the other hand. I think the study has made the assessment that, certainly for the short to medium term as the network is being rolled out, you have to come down on the side of the social policy objectives of trying to drive uptake on the network and therefore price it at an affordable level. In the longer term, I think this network will deliver quite good returns and would be attractive to the private sector. In the short to medium term, however, it is clear that it will probably not be attractive to the private sector, and therefore I think there is a clear role—and the study assumes that—for government to step in and support it during the short to medium term of the rollout.

**Senator LUDLAM**—And ‘not attractive’ in this case is a euphemism for ‘would not do it’? Optus is not going to go out—

**Mr Sheridan**—Optus will not go out and roll out—

**CHAIR**—But, if you were paid a subsidy by the government to roll it out to there, Optus could do it very well, as Telstra has done in the past.

**Mr Sheridan**—We would agree with that.

**Dr Wagg**—We do that under current schemes.

**CHAIR**—You do indeed. So it is a question of whether the government lays the fibre or whether they pay someone a subsidy.

**Senator LUDLAM**—Stephen Conroy is not actually out there with a spade. He has contractors out there doing it for him. It is not as though that the Socialist Republic of Australia is laying the cable. I will leave it there. Thanks, gentlemen.

**Senator FISHER**—They might be paying for it, though.

**CHAIR**—You have indicated that you can be persuaded that the access provisions of 50, 70 and 90 per cent or whatever it is—can someone correct me—

**Mr Sheridan**—It is 75 to 90 per cent by 2035, and by 2015 it is 31 to 35 per cent.

**CHAIR**—You can be persuaded to accept that that is accurate?

**Mr Sheridan**—I think we can. I will make a number of observations. First, the study points to fibre rollouts in places like Korea and Japan where they have had in the first five or six years a fairly strong take-up of services.

**CHAIR**—But were they not all vertically integrated services such as we are trying to avoid in Australia?

**Mr Sheridan**—I am not sure.

**Dr Wagg**—Japan was.

**CHAIR**—That is the difference. The only ones similar to this, as I understand, are Holland and US, which have plateaued out at 30 or 40 per cent.

**Mr Sheridan**—I think it is fair to say that around the world we are still at a very early stage in terms of fibre rollouts. The point I was trying to make was that, where fibre is being rolled out, you are starting to see a high take-up of that. Perhaps there are two more important observations—and I go back to an earlier comment. One is that the copper network has reached its capacity. Fibre networks, however, have a very long-term upgrade path. I think it is entirely reasonable to say that in 30 years time 75 per cent of consumers or businesses will be taking their services off the National Broadband Network, and we make that claim because the copper network is not likely to be around.

**CHAIR**—I do not want to hit below the belt, although I am going to, in just a passing comment, saying that Optus could have laid fibre around Australia as you were going to do in the OPEL contract. That is the below-the-belt bit, and I really would not expect you to enter into the political argument on that, unless you particularly want to.

**Senator FISHER**—Mr Sheridan looks like he is ready to. He was licking his lips in anticipation.

**CHAIR**—It is a bit below the belt. As I say, given enough subsidy—given \$4.7 billion in subsidy—you might have been able to do that and supply fibre to most but, for the last percentage, supply a wireless or a satellite service. Moving on, one of the other assumptions that concern me in the implementation study is that NBN will be increasing its charge to its customers, the retail service providers, by a regular amount each year—and I think two per cent is mentioned somewhere, either in the implementation study or by commentators. Is that a realistic view of the telecommunications market around the world?

**Mr Sheridan**—I think that is one of the points where we digress from the study in our submission. What we have said in terms of our observations is that that does not sit with the reality at the retail level that we expect there to be quite vigorous competition and therefore over time we would expect there to be downward pressure on potential retail prices, either in terms of their absolute dollars or in terms of the services you get for those dollars. Therefore, what we have said is that it is important for there to be a price cap mechanism. This is a monopoly network and therefore we would be concerned if this sort of network could just continue to sort of increase its wholesale prices without any reflection of what is going on in the retail market.

Quite an important point that we have made in our submission broadly around pricing is the need to set some clearer guidelines up-front in terms of what is acceptable and what is not acceptable for wholesale pricing. We have made the recommendation, both in this submission and also previously in our submission on the draft NBN bills, that the ACCC should be tasked with issuing some pricing principles up-front for services on the NBN. That should be set out in legislation. The legislation could also usefully provide some guidance to the ACCC in terms of certain principles that it should include in those or could have consideration for in those. One of those, for example, might be a price cap mechanism to ensure that, over the long term, prices remain affordable.

**CHAIR**—The implementation study's assessment that this is a commercial show, albeit 30 years down the track, is predicated upon this regular increase in their prices which, as you rightly say, does bring into account the monopoly issues and whether they have to be justified. If they cannot be justified, or if, as in the rest of the world, prices go down rather than up, there is no way in the world this can be commercially viable. The implementation study says that, to be commercially viable, you have to have a two per cent increase every year.

**Mr Sheridan**—I am not sure that I agree with that characterisation of the study.

**CHAIR**—I think Dr Wagg said that that is over a period of time, averaged.

**Dr Wagg**—It is over a period of time, and you would expect there to be a greater usage of the NBN over time. As it is configured, more than one service provider will be able to provide a service to a particular premises. So it could be Optus; it could be something like a smart bit user; it could be something like a security provider. So there is opportunity for the revenue pool to grow greater than what you have in the existing market. Our belief is that there may be growth in the overall revenue, but not in the charge per service that you will get over time.

**CHAIR**—Again, perhaps I am not a typical user, but for me, here I am sitting with an unconnected laptop computer getting some sort of signal coming in, and it is certainly not from fibre, and that is all that I will ever need.

**Dr Wagg**—I would say that actually, if you are going to have that at home, users will use laptops at home, but that laptop will then connect to the home network, which would then connect back by fibre. In fact, with respect to your laptop, there would be a fibre connection somewhere which will be going from this building, taking it back into the rest of the world.

**CHAIR**—Except that, when I sit at an airport this afternoon, it will not be going through fibre; it will be going through my thing stuck in the side.

**Dr Wagg**—Again, that will be connected to a fibre connection within the airport. There will be a WiFi connection which will be connected to fibre and connecting back. We see it as, importantly, fibre going further and further, and even wireless at home will be then connected back through fibre.

**CHAIR**—Bearing in mind your constant position about the provision in the draft bill which some interpret as giving the minister power to allow NBN to enter into retail—and that is a short description—are you aware of the Intra Government Communications Network?

**Dr Wagg**—Yes, we are. We have interconnected and, as part of services we have provided to government, departments have interconnected through that network.

**CHAIR**—Do you have a view on what is going to happen to ICON, if I can use the acronym, when NBN is rolled out? Will ICON form part of the NBN or, if ICON remains separate from the NBN, what effect will that have on the extent to which federal government and federal agencies acquire broadband services from you or anyone else over the NBN?

**Dr Wagg**—Certainly it is our understanding that ICON connects up major buildings, and we, Telstra and other parties do connect up buildings within the CBD. Certainly, as part of the study, and certainly as part of our response there, we do not believe that it is appropriate that NBN overbuild where there is existing competitive fibre already connecting up to buildings.

**Mr Sheridan**—What we have argued is that NBN Co. itself should not become a retail provider of services, which I think is partly the drift of your question.

**CHAIR**—Tell me how ICON will work. Do you have an input into ICON now? I think you said you did.

**Mr Sheridan**—Yes.

**Dr Wagg**—In providing a service through to government departments, we would use ICON as part of a connection.

**CHAIR**—So ICON is a dark fibre such as NBN is going to use?

**Dr Wagg**—NBN will not be dark fibre; they will provide a layer-2 service.

**CHAIR**—Do you provide the layer-2 part of the ICON thing?

**Dr Wagg**—We provide the service to the end user. So, in our providing a service to a government department, we would use the dark fibre as part of the service solution that we provide.

**CHAIR**—Would you have an idea whether ICON is going to be rolled into NBN, or would it make any difference to you if it were or were not?

**Mr Sheridan**—Potentially. If ultimately it results in NBN Co. providing services directly to an end consumer, we would potentially have a concern with that, because we do not think the NBN Co. should play in that space.

**CHAIR**—Finally, does Optus provide a broadband service in Tasmania at the moment?

**Mr Sheridan**—We do not at the moment.

**CHAIR**—And you never have?



**Dr Wagg**—We do provide business-grade services, and we provide our mobile service within Tasmania.

**CHAIR**—Do you know how the three RSPs were selected to become part of the NBN trial?

**Dr Wagg**—I think they self-select.

**CHAIR**—So you could have done it but chose not to? Do not answer me if these are commercially confidential.

**Mr Sheridan**—In terms of the Optus position, that is something that is still commercially confidential, and we are still examining the opportunities. But we are not one of the three who have announced yet.

**CHAIR**—But the three that are there are not competing with you at the moment on broadband service?

**Mr Sheridan**—Not in terms of delivery to consumers in Tasmania.

**Dr Wagg**—But we compete with them obviously elsewhere.

**CHAIR**—Of course. I am just curious about Tasmania.

**Mr Sheridan**—In terms of the consumer market in Tasmania today, either there are no broadband services provided or there are a limited number of broadband services provided over the Telstra copper loop. Optus does not provide—

**CHAIR**—You do not provide any ADSL or the equivalent?

**Mr Sheridan**—No, we do not—not in Tasmania to consumers.

**CHAIR**—I will not ask you what you are talking about, but are you currently talking with NBN as to what they are likely to charge you when the service starts on the mainland? I will not ask you what your talks are, but are you currently in that space?

**Mr Sheridan**—Certainly we have a range of discussions with NBN Co. on a number of different issues around technology, rollout, operational plans, and our views on pricing. I guess that ultimately on pricing what we anticipate is that they will put forward a special access undertaking which will actually set out the proposed wholesale prices for approval by the ACCC. There will be a formal opportunity to input into that process.

**CHAIR**—Are you aware of the deal for those three RSPs in Tasmania. I am not sure that I am quoting Mr Quigley correctly, but I am trying to: as I understand it, Mr Quigley told us at estimates that they were not making any charge—just doing the \$300 once-off connection fee. Are you aware of that from the discussions you might have had with NBN?

**Mr Sheridan**—I do not think we have any more information than has been made available to you publicly.

**CHAIR**—Would it be a fair assumption for me to think that the start-up offer on mainland Australia would be somewhat similar? It does not cost you anything?

**Dr Wagg**—That is up to NBN Co.

**CHAIR**—It was worth a try.

**Senator FISHER**—To the extent that Optus is differing from recommendation 6 and suggesting that, rather than rollout being representative across the country, there be rollout focused on underserved areas and, in particular, rural and regional areas—of course, I would welcome that view—would that not necessarily affect your assessment of the financial underpinnings?

**Mr Sheridan**—An important point of clarification is that underserved areas are not just rural areas.

**Senator FISHER**—I understand that. Did I say ‘including’? If not, I meant to.

**Mr Sheridan**—Just to add to that point, many metropolitan areas today which, for example, have a rim in place are underserved. We would see the rollout both in rural areas and those metropolitan areas.

**Senator FISHER**—Agreed.

**Mr Sheridan**—Fundamentally, no, we do not believe that it would materially impact the business case in the way that you suggest.

**Dr Wagg**—It should not, because you are going to need to roll it all out anyway, so the overall cost is not going to be fundamentally changed by which areas you start first.

**Senator FISHER**—No, but in your earlier support for the implementation study you talk about the return being necessarily projected not to maximise profit. Secondly, you talk about it therefore making sense for the government to guarantee in the early stages. I appreciate your point overall—at the end of the project it makes no difference to cost underpinnings—but at the very least, if you roll out first to the underserved areas which cost more, surely it will mean that the government guarantee, the taxpayer input and the taxpayer exposure will be greater up-front rather than lesser?

**Mr Sheridan**—I do not believe that that is the case. Our assessment is that the rollout first to underserved areas might well result in high levels of take-up because you have more latent demand for services than in areas where people already have broadband connections.

**Senator FISHER**—Yes, and it will depend on price.

**Mr Sheridan**—One other observation is that I think we have made a number of other recommendations which might actually take some costs out of the business case.

**Senator FISHER**—Okay. Thanks, gentlemen.

**CHAIR**—Again, it only remains for me to thank you for your assistance, not only at this meeting but right through the time that this committee has conducted its operations. We wish you well. We wish Australia well as we move forward into these interesting times in telecommunications. But thanks very much for your time today.

**Mr Sheridan**—Thank you.

**Dr Wagg**—Thank you very much.

**Committee adjourned at 3.07 pm**