



ENVIRONMENT AND RESOURCES COMMITTEE

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INQUIRY INTO ENERGY EFFICIENCY IMPROVEMENTS

TRANSCRIPT OF PROCEEDINGS

THURSDAY, 8 OCTOBER 2009

Brisbane

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Committee met at 1.29 pm

BALL, Mr Michael James, Acting Director, Technical Services Group, Department of Public Works

BRUMBY, Mr Glen Thomas, Executive Director, Building Codes Queensland, Department of Infrastructure and Planning

HAWKES, Mr Richard David, Executive Director, Technical Services Group, Department of Public Works

NIELSEN, Mr Gregory John, Assistant Director-General, Office of Clean Energy

QUINN, Mr John Thomas, Director, Sustainable Industry Programs, Department of Environment and Resource Management

CHAIR: Good afternoon, everybody. Thank you very much for attending this afternoon. We know you are extremely busy, but we are all looking forward to hearing what you have to say this afternoon. I have a brief statement that I would like to make.

I call this public hearing of the Environment and Resources Committee to order. For your benefit, Hansard is recording externally. The committee conducts this hearing pursuant to the resolution of the Legislative Assembly of 23 April 2009 that appointed it. This resolution requires the committee to inquire into and report on the economic and environmental potential provided by energy efficiency improvements for households, community, industry and government. The committee is to report to the Legislative Assembly by 30 November 2009.

In undertaking this hearing, consideration will be given to the following four points: firstly, the economic and environmental costs and benefits arising from energy efficiency improvements; secondly, the potential barriers and impediments to improved energy efficiency; thirdly, potential policy options for energy efficiency improvements, with an emphasis on initiatives that are cost-effective for individual producers and consumers; and, fourthly, the role of the Carbon Pollution Reduction Scheme and other Commonwealth government initiatives in encouraging energy efficiency.

Before I go on, could I introduce Peter Dowling, who is the member for Redlands; Mark Ryan, who is the member for Morayfield; my deputy chair, Jeff Seeney, the member for Callide; and the Independent from Maryborough, Chris Foley. I am Carryn Sullivan, the chair. You can see that we are a bipartisan committee and that means that we represent not only government but also non-government members and the Independents. I have to say that, as the chair, I have been very proud of the way in which we have conducted ourselves at these meetings. We are working very well together and we have formed a very good working relationship.

I have an apology from Simon Finn, who is representing the government in Tanzania. I have an apology from Julie Attwood, the member for Mount Ommaney. She will be here a bit later but she is representing a minister at a function. Could I also introduce Rob Hanson, who is our research director, and Rachelle Stacey, our assistant research director. Their input has been invaluable to this inquiry.

The proceedings here today are lawful proceedings of the parliament and subject to the Legislative Assembly's standing rules and orders. Witnesses should have been provided with the instructions to committees regarding witnesses and I trust that you have all read them. Hansard will note that you have read those guidelines. Under the guidelines, you may object to answering any question put to you on the grounds that the questions are personal and not relevant or that the answers may incriminate you. The committee will not require you to take an oath or affirmation. However, we expect that our witnesses will respect the proceedings. The recording of today's proceedings, except by Hansard, is not permitted.

It is our intention to keep to the times on the hearing program. We might finish a bit earlier than three o'clock because a number of committee members are not present. We have a lot to get through so I will avoid saying anything further. Please keep your answers succinct. If you take questions on notice, we ask that you provide your answers by Friday, 16 October.

Gentlemen, would you please state your names, positions and organisation for the record. To assist the Hansard staff, we ask that you state your name before you speak this morning. We would be pretty keen to hear a brief opening statement from each of you. So who would like to start? Michael, since you are very expert with this procedure, we might start with you. You are always very interesting.

Mr Ball: I am the Acting Director of the Technical Services Group in the Department of Public Works. The committee has had to put up with far too much of what I have had to say, I suspect, but I would like to say that the focus that I would like to see is how we can make a better contribution to engaging in new technologies and working with organisations and industry to support the government in trialling and proving—or disproving—the benefits of those technologies, which might in some way be accessed through a technology innovation fund in partnership with something like a cooperative research centre or an establishment with universities and industries so that we can kick away some of the white sandshoe brigade and get down to what are the emerging technologies that we can use practically out there in our buildings to create a better environment for all.

CHAIR: Thank you. Richard?

Mr Hawkes: I am the Executive Director of the Technical Services Group in the Department of Public Works. I manage a group that Michael is part of within Public Works where we are looking, in terms of driving energy efficiency, to get the most cost benefit available within public buildings and certainly starting with the Public Works portfolio.

Mr Nielsen: My main focus is on how we drive collaboration on this issue of how you accelerate clean energy futures. I think a big driver for the office is listening and understanding and starting to interpret how you turn that into policy and ways forward.

CHAIR: Thank you. John, welcome back.

Mr Quinn: I run a suite of programs that include information, networking support and recognition, which I think clearly supports the aims of energy efficiency, although we are approaching it in a holistic way. So we are looking at water waste, energy and material. I am also representing DERM in the interests of the community and householder work that is being done through the Low Carbon Diet and also the ClimateSmart Home Service.

CHAIR: And Glen?

Mr Brumby: The area that I oversee is responsible for building regulations and the suite of changes that are being initiated both in Queensland and through the national Buildings Codes Board. From the point of view of our department, we would like the committee to take stock of the range of policies that are currently being implemented. There is a very big suite of policies that are currently in process or are already underway. I think it is probably very important for everyone to be fully aware of the impact and the long-term gains from those policies. Also, it is probably very important in a regulatory sense to concentrate very much on the holistic performance of both the residential building set and the commercial building set because, as the recent IPCC reports, McKinsey and the ASBEC report—the second plank—point out very clearly that part of the low-hanging fruit is very clearly in the building sector. I think we are making some extraordinary gains with existing technologies.

CHAIR: Thank you very much, gentlemen. Peter, would you like to start the ball rolling?

Mr DOWLING: The Council of Australian Governments—COAG—released a national energy efficiency strategy back in July 2009. Is it important that Queensland has one? If so, how would it differ from a national one? What would be the differences in the strategies? What would it cover?

Mr Nielsen: It is probably a question for me. Basically, you have representation at the national level in relation to the National Framework on Energy Efficiency. One of our people chairs one of those committees and I think Alan Millis might also be a part of that framework.

It is not so much we have our own; it is that we are consistent with the federal level. We have a group working on the mandatory energy performance standards and the like. We are consistently trying to work in the federal arena to ensure that Queensland is either leading the agenda or is certainly at pace with it. So my tendency would be to be a consistent player that is showing leadership. I hope I have answered the question.

Mr DOWLING: Yes, you have.

CHAIR: Would anyone else like to make a make a comment?

Mr Brumby: From the building sector's point of view, it is probably quite important for the National Strategy on Energy Efficiency to recognise the unique nature of Queensland buildings use. I suppose from the energy portfolio point of view there are some very important goals to achieve, but we have to make sure that the policies as they filter through the various areas are suitable for Queensland, because it does have its own unique climatic conditions and building use. That is one of the reasons. The other reason is that Queensland also has its unique household demographic and how households are changing to various technologies, like cheaper air conditioners. With the growth in the use of air conditioners, we need to make sure that Queensland, building on what Greg says, is maybe ahead of the game because we have a large rise in the use of air conditioners. So the sustainable housing policy complements the National Strategy on Energy Efficiency by making sure that there is a package of measures to mean that people do not need to use air conditioners as much. We have gone ahead a little bit by making sure that air conditioners are more efficient.

CHAIR: What is the percentage of homes that have air conditioners? Do you have any idea?

Mr Brumby: Yes, I have the number. It has actually doubled in recent years. I think that is probably because we are more attuned to comfort levels. A key part of the government's strategy with sustainable housing is to say that if you have an air conditioner, you do not need to use it as much. So the building design will mean that you do not need to turn it on for as many days and, if you do, it is easier to keep it cool.

The statistics that we have here are from 1994 to 2008. We have gone from 30 per cent penetration to 67 per cent of houses, which is quite a dramatic increase. That also masks the fact that some houses have multiple air conditioners. So they put them in various parts of the building and they are all turned on and off at the same time.

Mr DOWLING: Just to follow up on that, is there a nexus between cooling in Queensland and heating in the southern states? It is about energy efficiency. Is it not similar, or do you see it as a separate discipline?

Mr Brumby: We have, I think, 95 per cent of buildings—new homes in particular, which is a problem for our energy infrastructure—which contribute to peak load for cooling. One of the challenges with the building code is to make sure that we satisfy performance provisions that suit Queensland so that you do not have to build unnecessarily complex or expensive buildings. So, yes, there is a link. We do tend to focus, because of our buildings in climate zones 1 and 2—which is hot and tropical—on the cooling load. Some of the provisions in the rules mean that you get a penalty, because we are worried about heating as well.

Mr DOWLING: I suppose I was more comparing the fact that it is a national strategy about energy efficiency. Is the same requirement or discipline required, or is it the same dynamic when you are planning a strategy for energy efficiency in heating devices versus cooling devices as opposed to, 'Yes, I know we need air conditioners here, but in Victoria and Tasmania they need heaters'? Is it the same technology that is being adapted to create those efficiencies in the national strategy? If not, then that would support the argument that we need to look at a separate Queensland plank within the strategy.

Mr Brumby: Yes. I would say that there are probably different strategies with heating and cooling. Through the building codes we are advocating continuously the need to keep working on things like mechanical, or air movement, because we know that, first of all, people in Queensland are more accepting of higher temperatures by having outdoor areas. We know that cooling through fans is very efficient. That has been recognised in the recent RIS. They are saying that the star ratings of one to 1½ stars are available for cooling by using fans. So it is very, very important. The need for work in Queensland as a stand alone depends on how well we go at the national level. So that is a matter that we need to continue to monitor.

Mr DOWLING: Thank you.

Mr Ball: If I may just add to that discussion the work that we did in Research House in Rockhampton, which was a four-bedroom home with a design strategy for the local environment. To complement the breeze pathways, it was well insulated. We did a study with the Queensland University of Technology that looked at the response from the tenants. The tenants were of English background and most of their visitors thought that the house was that cool in the summer months that it was actually air conditioned. The difference between the heating and cooling is that the building envelope is designed to retain heat.

The uniqueness of Queensland is that we want the building to be able to be opened up to take maximum benefit of the natural breeze pathways and to be well insulated to ensure that we do not retain heat over long periods of time but then, on those—as the tenants reported to us—11 awful days it would be nice to have air conditioning to be able to improve the indoor environment. So it is a complementary strategy.

CHAIR: We are going to see some example of those on the 30th and I believe that you are joining us for the tour?

Mr Nielsen: There is increasingly a relationship between heating and cooling through air conditioners. Reverse-cycle air conditioning is probably the common factor in that. The interesting thing is that it is a summer peak in Queensland. So it would suggest that it is the cooling component that is actually having the greatest drive on network consumption at the moment. But reverse-cycle air conditioning, significantly, is a common factor between the two that is of interest.

CHAIR: Is there any further comment?

Mr Brumby: The other thing is design, as Michael has just pointed out. As you go to higher star ratings under the national scheme it can drive market responses such as very small windows because windows are the most expensive part. The glazing is where you get the gains now because we are looking at heat transfer between the outdoors and indoors—that is, stopping heat ingress at the hottest times. That tends to mean that if you build a building without any windows you get a cheaper outcome. It can lead to outcomes that are against how we traditionally like to live in in Queensland.

Mr RYAN: Thank you very much, gentlemen, for coming in. My first question is probably best directed to Mr Nielsen and relates to a report which your office forwarded to us, the NERA Economic Consulting report under the COAG working group into energy efficiency. I would just like to thank your office for sending that through. It is an outstanding document.

At the back of that report there is a table which provides a summary of possible energy efficiency program enhancements. I am just wondering whether or not your office has had an opportunity to look through those suggestions to see whether any of those suggestions are things that the Queensland government is doing now or things that the Queensland government could look at doing into the future? That leads into the wealth of reports and knowledge out there at the moment. Is your office providing a bit of a collection point for all the research and development that is going on into energy efficiency measures?

Mr Nielsen: I might take the broader question on notice and give you a full response. In terms of whether the office is going through that report, I can inform you that they are. They are looking at the learnings out of that and how to apply that to some of the other considerations we have going on in the state.

Part of that program is that we have now started consultation around the Queensland Energy Management Plan which will be the sister paper to the Queensland Renewable Energy Plan. It involves taking all this sort of information and other information from communities and other industry players to have a look at what the appropriate response to energy for Queensland is. I will give you a broader response as a question on notice, if you like, and explain exactly what work is coming out of that.

Mr RYAN: Thank you.

Mr Nielsen: That report has formed the measures under the National Strategy for Energy Efficiency. We have utilised that for the work that we are doing with NFEE. I will document that and get back to you, if you like.

Mr SEENEY: Can I ask you a fairly general question about energy subsidies, particularly in relation to electricity. Can you give us an outline of how you see the price of electricity being subsidised at the moment and whether or not those subsidies are worthwhile and promote energy efficiency or whether that effort to promote efficiency using subsidies can be better directed?

Mr Nielsen: Can I clarify the question. Jeff, when you say 'subsidies', are you talking about regional subsidies for the delivery of energy?

Mr SEENEY: Rebates mainly, I think. I do not think we will touch on the somewhat contentious issue of the regional subsidies.

Mr Nielsen: I think the issue with rebates is how you combine the need with the availability of funds. The view of the Office of Clean Energy is how do you ensure that you are very targeted about the right socioeconomic outcomes? What segments of the market do you target for best effect? How do you ensure the money spent is giving you the best outcome?

You will note last week the RIS that is out for pool pumps. We are going to see a lot more of this—that is, going out and actually engaging with the market to find out whether these things are achievable and what the negative impacts are. The rebate in itself should not just be seen as the answer or the solution. I agree with what Michael is saying. What are the appropriate technologies and outcomes that should be supported? More importantly with rebates, we should have measures of effectiveness. How do we know they have been successful? That is the question we will be increasingly asking. How do you know whether you should be supporting heat pumps or air conditioners that are energy efficient or something else? That is probably a big piece of work that we need to do nationally. I think it is an unanswered question at the moment that we have to put more focus on.

Mr SEENEY: Would you see benefit in looking at redirecting some of that subsidy effort into things like smart meters that allow people to more accurately understand the true cost of them using electricity in the electricity cycle?

Mr Nielsen: The big question is: do we have enough information to make the right decisions? My view is that we do not. So should we be paying more attention to understanding how people use energy and what their ability is to shift the load shape and how that relates to clean energy profiles or renewable energy profiles? I think we could invest a lot more potential and funds in that space, yes.

Mr SEENEY: But you are saying you do think we have enough knowledge about how to shift the load at the moment?

Mr Nielsen: My view is that we need more, yes.

Mr SEENEY: How do we do that? How do we achieve that?

Mr Nielsen: Part of that is about engaging energy retailers, energy networks and understanding the information they manage and how that applies to energy efficiency and things like demand management. It is about understanding the relationship between when people use energy and how much they use. It is megawatts and megawatt hour discussions. It is also being able to work with manufacturers of air-conditioning units and all those things that use energy and talk to them about output versus input. A big part of that discussion is if you are building a product to cost that cost generally is how much you can sell it for rather than the real cost to community is.

So the information is very broad spread. It is not just about how and when they use it; it is why they are using it and whether the equipment they are putting in is delivering a benefit. A classic example is that they turn an air conditioner on because they want to be cool or want comfort. They do not turn it on because they want to use energy. They do not necessarily know how much energy they are using.

That is why the MEPS work is so important. There are standards on televisions and air conditioning and all those sorts of things. General consumers do not know how much energy they are using when they turn on a button. That is more of an upstream discussion. We should be investing more funds into the manufacturing, innovation and technology level. I think we can only but learn more.

Mr SEENEY: What about the potential for metering and billing systems to address that peak load? We have heard a lot in this committee about the effect of the peak load of electricity. I am sure you have all seen the figures. It is not hard to appreciate that it is a major issue. I guess the point I am driving at is whether or not it is the responsibility of the householder to address that alone or whether the government can subsidise whatever it is that is necessary to make it possible for individual consumers to address that issue of taking the top off the peak load period?

Mr Nielsen: The answer to that is that the customer should never be left alone to deal with this issue. This is a community issue. In terms of what role the distributors and the retailers play, one largely is about the information from a retailer perspective. The likes of Ergon Energy now have standard bill benchmarking that they are rolling out in regional Queensland which allows consumers to see how much they are using in comparison to their community. The other part of that is: what mechanism have you got in place to reward those who use energy wisely?

I understand the QCA is now looking at tariff reform. That becomes quite a significant trigger. At the moment, if I use energy badly I still pay the same per kilowatt hour as those who actually try to be energy efficient. The triggers may come in things like tariff reform. The triggers may also come in how we represent information to customers. For some, it may be as simple as a machine on their fridge which has a red button or a green button or numbers.

For others, it might be when they make the decision to put a pool in or an air conditioner in or a hot-water system in that they actually decide then to give control of that system to someone who can actually make those decisions for them at peak times. So networks become smarter. They are able to shift load and customers ultimately are rewarded through either a different tariff structure or downward pressure on the price increases for network delivery. Customers cannot carry this alone. It has to be an integrated approach.

Mr FOLEY: In terms of the evaluation of energy efficient programs and services, the government submission at appendix A sets out a whole array of energy efficiency programs and initiatives. Which of those programs and initiatives has actually been independently evaluated?

Mr Nielsen: I will have to take that as a question on notice. Could you define 'independently'?

Mr FOLEY: Evaluated outside of the government itself.

Mr Nielsen: I will take that on notice from my end and in terms of the things our team has looked at.

Mr FOLEY: With the recommendations you have made, what have been the outcomes in terms of environmental benefits and value for money specifically?

Mr Nielsen: Part of the process we have been looking at in setting up this Queensland Energy Management Plan is to start to evaluate what these things are delivering in terms of effectiveness. Maybe John can talk to you about the benefits that are coming out of climate smart homes. In terms of the Energy Wise schools program, we know that there have been benefits in the last year of a 10 per cent reduction in the energy the schools we have targeted have used. In terms of the broader work, our objective is to start to put a set of measures in place that help us understand that better. It is a bit loose at the moment, it is probably fair to say.

Mr FOLEY: With the requests that we have put on notice in terms of the independent evaluation, if it has been independently evaluated it would be useful for us as a committee if we could get a copy of those reports as well.

Mr Nielsen: Absolutely.

Mr Brumby: We have published through the Australian Building Codes Board regulatory impact statements on a number of the building energy efficiencies. They are not government programs. They are available for the committee if you wish to see them. They are quite extensive evaluations of the costs and benefits of the building regulatory measures.

Mr DOWLING: People have suggested that we need to try to set targets for residential, business and community consumption. Is the government considering any of those measures? If so, how would they be levied out? What sort of targets would they be setting? Would they be similar to the water targets that were introduced in recent times? What is the government looking at? What sort of targets would you be setting relative to each of those sectors—residential, business and community?

Mr Hawkes: The government does have a Strategic Energy Efficiency Policy which Michael may have explained at one of the previous hearings. We have set targets of five per cent energy reduction by 2010 and 20 per cent by 2015. That is for all government departments to follow. Strategic authorities and GOCs are also to address those targets. That is within government. Certainly state policy does not cover the private sector. I think government is trying to demonstrate by leadership—getting its own house in order first.

Mr Brumby: Towards Q2 does include quite an ambitious target for the reduction in household energy, energy consumption and car use. Does anyone have the figure?

CHAIR: It is one-third by 2050, is it not?

Mr Brumby: 2020.

CHAIR: 2020.

Mr Nielsen: That is quite an aggressive target when you think about it. On the issue of targets, it is not the targets alone that make the difference. We have had this discussion from a network perspective. If you have very clean energy the emissions reduction has been handled upstream rather than downstream. You have to tie other drivers to it. So targets need to be linked to things like cost. They need to link things like how it effects the quality of life and productivity. It is the relationship between the targets and outputs that we would like to understand a bit more.

Mr DOWLING: You touched on cost as a possible mechanism downstream. By 'downstream' I suspect you mean the residential end rather than the production end. Has the increase in cost rippled through the consumption? Has that started to impact on it? The price of power has gone up significantly over recent times. Has that seen a reduction in power consumption at any level in any industry sector or the residential sector?

Mr Nielsen: It is interesting. Consumption continues to grow, but on the back end of that you have to remember we are growing as a state as well. The residential consumption in the last financial year only rose by 11 kilowatt hours which is 0.03 per cent against the typical—and I will need to check this again—figure for the last five to seven years of one to 1.5 per cent. That suggests there is a flattening. Whether that is directly related to energy prices or other factors in the community, we have done no research into that. We have seen it flatten this financial year when compared to the previous year.

Mr Quinn: Just to add to that, the ClimateSmart Home Service may be making some contribution at the residential level. The figures as at 6 October are that there have now been over 106,000 registrations for that service and over 97,000 services completed. The estimates for those are that households can save a total of 20 tonnes of greenhouse gas emissions over the eight-year life of the products installed.

Mr FOLEY: What has been the experience of take-up rates in regional Queensland compared to capital cities for that program?

Mr Quinn: I will take that on notice. There is an active campaign to promote the program in regional areas. Obviously the service is going to be slightly different, but I will get some details to you by the 16th.

Mr Nielsen: On that question, Ergon Energy has also been working with the ClimateSmart Home Service in areas like Mount Isa and Mackay for areas that are high-consumption areas. So we are trying to take that program broader than just relying on the consumers themselves to actually call in. Ergon is very positive about using the ClimateSmart Home Service project and also ecoBiz. We have that discussion going now, because the ecoBiz program is quite a good program which you want to leverage off as well.

CHAIR: I think there will be some questions on that shortly.

Mr DOWLING: John, I forget the number you quoted as having taken up the ClimateSmart program so far. Was it 190,000?

Mr Quinn: Over 106,000.

Mr DOWLING: Sorry. What percentage of total homes is that?

Mr Quinn: My understanding is the aim is to conduct the service to 260,000 homes which will be one-sixth of Queensland households.

Mr DOWLING: It has been put up as part of the reason for a possible downward trend or a lessening of the growth in electricity consumption. I am just trying to understand in my mind whether or not that number of homes taking up the ClimateSmart initiative would be enough to have a knock-on effect to show some reduction. I am trying to exercise that in my mind so that I understand it.

Mr Quinn: I do not think we need to do the service to every home, because what we are trying to do is influence behaviour change. If you influence that with people, they tell their friends and they tell their family and you start getting that cultural change and that behavioural change. It is not acceptable to stand out on the front yard hosing your garden anymore. Maybe it will not be acceptable to leave the lights on at home anymore. So I do not think we have to do a service to every house to achieve change.

Mr DOWLING: I imagine there would be a certain amount of rub as well from just the TV campaign.

Mr Quinn: Exactly.

Mr DOWLING: The TV campaign gets to, arguably, 100 per cent of the population. Thanks, John.

Mr RYAN: We have received a lot of submissions during this inquiry, both here today and also in our previous public hearings, about the amount of information that is available to people and also the number of programs that are available to people. Of course, there are things being provided at the local government, state government and federal government levels. For example, with the solar hot-water system scheme you almost have to contact three levels of government to complete the application form

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and get it submitted for consideration. I wonder whether or not there have been discussions either at a COAG level or in your role as a departmental representative with other areas of government and other levels of government to rationalise the information that is provided and perhaps even provide a one-stop shop for consumers so that there is a single place for getting information and resources about the programs and initiatives that the three levels of government are providing.

Mr Nielsen: We ran a workshop in September with a number of government agencies as well as the GOC energy providers. One of the outcomes of that was a view that there needed to be a one-stop shop for all of the information and the whole process had to become simpler for consumers, and that is not just relevant to energy efficiency but also relevant to renewable energy. So there is a clear driver that we have to make it more simple than it is currently and, secondly, that everybody needs to bring their information together and treat it as if it is a shared resource rather than a disparate resource. It is an issue we have noticed. You are right: with solar hot water you have to go to the federal arena and you have to go to the Queensland arena. It is difficult for consumers. So it is on notice.

CHAIR: Any further comment?

Mr Brumby: Just one from the building sector. From the building point of view, we have been very careful to try to accumulate useful information in the guidelines for houses and commercial buildings. I am happy to table the guideline under the Queensland Development Code Mandatory Part 4.1—Sustainable Buildings which has done a lot of work on putting together all of the energy efficiency stuff. It accumulates quite a lot of information about how to build and design for sustainable outcomes and reduce energy use. We have coordinated this through all of the other government departments to produce a one-stop shop. I am happy to table that.

CHAIR: Thanks, Glen.

Mr SEENEY: I want to raise with the panel generally and with Greg initially the issue of natural gas as a cleaner or more efficient energy source. Is the Office of Clean Energy involved in, firstly, quantifying the energy advantages of natural gas? Are you involved with other parts of the government, if you like, in developing strategies to increase the usage of Queensland's rapidly developing natural gas resources?

Mr Nielsen: The answer, Jeff, is at the moment we are giving basically minor attention to that area. It is not an area of focus for us at the moment. I think we could expand into that at a later time, but the natural gas issue is not on our agenda currently.

Mr SEENEY: Are you aware of anywhere else in the government? Is there anyone else working on it that you are aware of?

Mr Nielsen: I will take that on notice if I could. John just mentioned to me the 18 per cent gas policy, but I will take that on notice and give you a response on it. It is not being ignored; I know that. I just cannot give you the answer as to where it is. The issue for me largely on gas in a sense is that I have a positive view for the use of a cleaner technology. The major issue is that gas reticulation is not as extensive as it is in other states. I do know there are parties looking at this but I do not know to what extent, so I will get back to you on that.

Mr SEENEY: I am aware of the 18 per cent gas via electricity issue, but would you all agree that there is a lot of potential to increase gas usage as a cleaner and more efficient fuel in a whole range of areas such as household use and domestic use, industrial use and even as a transport fuel? How do any of you think that those usages might be increased?

Mr Nielsen: I make comment in the sense that, yes, I do agree that it is a part of the future. The fact that I cannot separate in my own mind is the issue of cost to the consumer—that is, in the sense of is it actually a more expensive alternative than others? I think that is a question we have to consistently ask ourselves, and we are seeing that with LPG gas. It is more expensive to supply LPG gas to hot-water systems, for example, than it is in other alternatives. So the socioeconomic issue becomes quite valid in that space, but certainly I see a place in the future for gas and more gas. Just how, when and where is yet to be answered I suppose.

Mr SEENEY: If we look at it in terms of the building codes, I think the building code at the moment requires every house to have a rainwater tank. Is it a possibility to extend that type of regulation to require every house to have a gas cooktop, given of course that we are assuming that there is sufficient evidence to establish beyond doubt that a gas cooktop is a lot more energy efficient and provides a lot cleaner energy source for cooking than electricity?

Mr Brumby: In answer to that question, there are a couple of policies already being implemented which is why I alluded to the fact that there are a range of things already underway. The government has approved the introduction of a sustainability declaration for 1 January to steer households towards more sustainable building features, one of which is that the declaration will allude to gas cooktops. From 1 January 2010 in gas reticulated areas every replacement of a hot-water system will have to be an energy efficient one, and one of those is obviously a gas hot-water system—it could be either storage or instantaneous—and there is a potential obviously to improve the gas hot water uptake for multiunit residential buildings, because that is an area where you have quite a lot of energy being used to heat water and distribute it across multiunit dwellings. The bar there so far is that there has been a little bit of a technology issue plus also delivering methane to more buildings.

Mr SEENEY: Your answer raises the issue of the problem of the restricted gas reticulation area, which I think Greg referred to earlier. Are there any moves, if you like, or work being done within government to encourage the expansion of the gas reticulation system or the adoption of some alternative system for new housing developments?

Mr Brumby: From a planning perspective, that is not at the moment on the table as a mandatory option. We are hoping that through the rollout of the energy efficient hot water replacement that will drive extra connections, because they become more economic. We know from talking to Australian Pipeline Trust that having the hot-water system is the key driver, but they prefer to have hot water and gas cooktops connected to make it economically viable. They are subject to Queensland Competition Authority rules to allocate their capital appropriately, but we do understand that for new developments there is quite a high uptake for gas. However, I do not have any numbers on that.

Mr SEENEY: I take it from your answer there would be a lot more economic drivers for new developments than there would be for extending the reticulation system to current areas that do not have it.

Mr Brumby: That is my understanding.

Mr SEENEY: So how would you respond to a suggestion that it is a legitimate role for government in terms of increasing the uptake of gas as a more efficient energy source to look at things like extending the reticulation system and developing mechanisms to deliver gas outside the reticulated areas? Once again, I go back to the Office of Clean Energy. I am surprised that those sorts of things are not part of identifying a total usage of cleaner energy—a total increase in the total usage of clean energy.

Mr Nielsen: We do not consider that they are not; it is just that it is not on the agenda today. The Queensland Energy Management Plan may look at the role of gas in energy management; I just do not have a team working on gas per se at the moment. But there is a gas team in QME and I will come back with some more detail on what is happening with that.

CHAIR: Just for clarification, what is QME?

Mr Nielsen: Queensland Mines and Energy.

Mr SEENEY: It is about the uptake though, is it not? I am not being critical of what your office does, but would you agree that, like so many of these things, it is about ensuring that the outcomes are achieved and that the uptake is realistic? I guess one of the things that I see as a role for this committee is to look for the impediments or the things that are providing a disincentive to the uptake of what should be seen as a clean energy solution or an energy efficiency solution. In relation to gas, is that lack of a reticulation system or an alternative delivery system in your view the major impediment to the uptake of the usage of gas, or are there others?

Mr Nielsen: I think it goes to two things. One is the availability of the gas and the other is the cost. My understanding is that those networks that are out there now are not saturated with users necessarily, so I think cost does play a part in the decision for the consumer. Maybe there is a consumer attitude towards gas that is different than electricity that prevents them from going to gas. But you raise a good point in the sense that this profile of whether or not to have gas should be put on the agenda sooner rather than later.

Mr SEENEY: Can I perhaps—

CHAIR: I believe Michael wants to make a comment, but we look forward to hearing about that issue in your written response.

Mr Ball: If I may? Richard also has a response. With our limited exposure with gas and the industry, I think there are a couple of other things other than reticulated supply. With our work in Rockhampton back in the early 2000s, I think there was less than a one per cent take-up of natural gas in reticulated areas. So I think there are also some consumer perceptions—'Grandma had a gas stove and it was really dangerous.' Today, the gas stoves have a great deal more technology available to them. The other is that builders are beasts of great habit. If they are used to buying an electric system in their packages, that is their supply chain that they are used to. They have been doing it for 20 years. So there are a couple of consumer and cultural and trade and industry issues as well as the availability from a reticulated supply that need to be considered.

CHAIR: Good point. Thanks, Michael. Richard, would you like to make a comment?

Mr Hawkes: I would have to agree that a certain amount of restriction in reticulation available in the commercial building sector has probably slowed some progression in the use of gas in commercial buildings. There are air-conditioning systems developing that can run off gas, but bear in mind that most commercial buildings would need a large electrical supply as well and unless there is good value in bringing the gas supply in, it is not done. It is the cost and the availability of reticulation that stops it.

There are a number of small, little domestic hydrogen fuel cell units out in the marketplace being trialled at the moment that run on gas. Again, the lack of availability of the gas supply would be one hindrance. The cost of that technology and the installation at the moment is another one. When you compare gas to, say, solar PVs, solar PV is a renewable energy; the gas supply is purely a cleaner energy rather than coal. I think we have to bear that in mind. It is a cost-benefit issue and the availability.

CHAIR: Is there any further comment?

Mr Brumby: Just one. In a practical sense, when hot-water systems are replaced, being able to get the hot-water system back in time is a very big issue. A solar or a heat pump can be replaced quite quickly, but if the pipework is not already connected to the property, then there is more of a delay in putting in a gas system. So that can be also a small impediment.

CHAIR: Any further comment? Chris, the member for Maryborough?

Mr FOLEY: In terms of improving the energy efficiency of supply chains, in some respects the globalisation of trade that we have seen has made the world a smaller place, but that has been on the back of relatively cheap oil. For instance, about one-fifth of all oil production—or 15 million barrels of oil a day—is used to get goods from a manufacturer's dock to the retail end. So that is the energy cost of the transport. What is being done in Queensland to assist and encourage people like manufacturers, wholesalers, distributors and so forth to increase the energy efficiency of the supply chain?

Mr Nielsen: I will open the discussion. I think that that argument will be directly linked to the Carbon Pollution Reduction Scheme in the future in the sense that the focus is increasingly going to come on supply chains to understand their carbon intensity and the cost drivers that will come through. If you are not efficient in using your energy, it is going to cost you more. It is the cost of that productivity that flows through to consumers and you may become noncompetitive.

In terms of supply chain discussions, I think it is very obvious that, as most consumers do not understand the supply chain, most industries do not necessarily collaborate as a supply chain. Increasingly, what you are going to see more in the future is an end-to-end argument about how you manage energy and how you actually manage the cost to the broader community. So the short answer to that at the moment is that not enough is being done.

There is a program that DEEDI is working on at the moment now called Carbon Outlook where they are working with the industry—and KPMG has been working with them on that—to look at how you take it to industries and manage their end supply chain of use. I think there are a number of workshops happening on that at the moment. With the outcomes of those, I think the first presentation on that work is next Friday at the DEEDI climate change forum. So the paperwork there may be available if you want to have a look at what the Carbon Outlook program has produced.

Mr FOLEY: I guess what the committee is saying, too, here is that whilst there has been a lot of work done on the performance side of products in terms of their energy use, that is really only part of the picture, is it not; it is the whole life cycle.

Mr Nielsen: Absolutely.

Mr FOLEY: Of producing the goods and getting them to where they have to go. We have done great work in the financial systems to be disclosing the full cost of a transaction, for instance. So there is probably a reasonable correlation between that and the energy sector—looking at the big picture.

One of the things that springs to mind is the cost of sea transport, for instance, especially for the long distances that we have in a state like Queensland. They can be quite efficient. Obviously, there is having a lower carbon footprint—roads that do not need as much repairing and so forth. Are you aware of anything specific—and you spoke about the carbon reporting—that has that whole life cycle, or is that still being developed?

Mr Nielsen: I think we are in early discussions on the broader solution. There are discussions happening now on supply chain costs and supply chain benefits and the impacts of the CPRS. I know a number of the GOCs are also starting to look at a supply chain, particularly places like Ergon Energy, which has 32,000 contractors, I believe, to provide work to them. It is very much in its infancy, from my understanding.

Mr Quinn: I have a couple of things on that. The Queensland government's ecoBiz program assists businesses to take ownership of what is happening inside the business itself and helps them establish their footprint and work through on a methodology of looking at their products and the impact of all the resources that go into that per unit. The most recent tally we have for the 49 partners we have in our program is that we are getting average energy savings of 15 per cent, greenhouse gas savings of 14.5 per cent, average water savings of 30 per cent and waste savings of 22.5 per cent. Overall, with those businesses, they are saving \$44,500 per business.

Mr FOLEY: Is that per annum?

Mr Quinn: Per annum. That is about scope 1, though. What you are talking about is looking at scope 2 and scope 3. Some of the work we are trying to do with Queensland business is to make them aware of that overall responsibility. There are some good case studies we share, such as Grove Mill in New Zealand, which puts their wines on the shelves in the UK with zero carbon. They get everything as efficient as they can and offset the rest and that becomes a marketing advantage. So that is the sort of model that we are trying to inspire with Queensland businesses. But often you have to take them through a process of seeing the benefits of savings in their own activities before they start seeing the light of a competitive advantage by customers paying more for something that meets their values.

Mr FOLEY: In general terms with a business, you can either increase sales or decrease costs, can you not? So if you can certainly have at the head of the supply chain the costs—

Mr Brumby: I have just one comment to make. There is a large body of work underway at the national level for building materials. That is an industry database to get an idea of the cradle-to-gate performance of building materials so that they can be compared and sustainability improved. One problem with that is that there is no ability to work on cradle to cradle, which is the total life cycle. That would be obviously very beneficial so that we understand the true assessment of each material. It is very difficult, though. It is extraordinarily complex work.

Mr FOLEY: The cost of burying unsuitable building materials.

Mr Brumby: Or re-using them.

CHAIR: Any further comment?

Mr Ball: If I might just put in a plug that some of the very early foundation work for that life cycle assessment tool was undertaken by the Cooperative Research Centre for Construction Innovation and it had a significant contribution from the Department of Public Works. They utilised the Olympic Games material from Sydney and the New South Wales government. So there were a lot of collaborative partnerships that happened. That is now into the commercialisation phase. It is internationally recognised. In Holland and particularly in the United States the tool has been well regarded.

CHAIR: After that advertisement, are there any further questions?

Mr DOWLING: Just going back to clean energy—this is probably directed to you, Greg. We were talking about gas as a clean energy source. I had a solar company come out to look at my house and measure up the roof for solar panels. The guy came out and measured up and looked at it and said, 'Yes, fine, but have you considered wind?' Apparently, wind generation now is becoming flavour of the month. His barrow—I do not know if it is right or not—or his argument centred around the fact that, certainly in a coastal community where I live, with solar you get about 12 hours worth of potential return, or energy production, whereas with the wind fans, it has a 24-hour potential. You do not get wind 24 hours a day, but he said that it was very low speed. Is the Office of Clean Energy looking at those strategies? Is there something in place already? What do you reckon; do I go solar or wind?

Mr Nielsen: There are a couple of answers to that. One is that large scale wind is generally proven. You are starting to see that roll out in a number of places globally. With small scale residential wind, you do not see too much of that at the moment. So it is probably not mature in the thinking. If you were to go across Australia, I do not think that you would see too many wind generators connected to homes. A few boats have them these days. So I think the issue really is that it is probably less mature than the PV market, which means that it is probably two to three years, or four or five years behind until consumers get confidence that it is actually an alternative.

In saying that, the Office of Clean Energy review of everything it does considers all technologies. Part of that linkage is the maturity of it and also the output and the effectiveness of it. So in answer to your question of PV versus wind, I am sorry, Peter, it a choice that you will have to make.

Mr DOWLING: Thank you.

Mr Ball: One of my guys lives in a coastal community at Noosa. He put up a wind fan on his property. It turned about two millimetres in the first three months because of insufficient wind. It was older technology. He took it down and gave it a mate of his who lived up on the hillside up near Maleny. So the variability of wind speed and the advancement of technology might be something to consider.

Mr DOWLING: On that theme, someone has come to me about induction cooking. Is that a strategy? The claims are—and again I will be bringing some documentation forward—that it is 90 per cent more efficient to cook with this induction technology than it is to use electricity and 60 per cent more efficient than gas. Again, I am not pushing that barrow; I am just wondering if that is something that is being considered in either home design or in the whitegoods industry through the retailing sector? I know, John, you have been active in that precinct with energy efficient retailing. Can anyone field that question? Is anyone aware of it, or has anyone got a bit of a handle on it? Apparently, this is emerging in Europe as we speak. That is certainly the pitch that has been made to me. It just struck me as fairly interesting if those percentages were true. Further to that, do we know—and this might be a question to Glen—what sort of consumption levels are there in cooking compared to the balance of the residential consumption of power, or use of power?

Mr Brumby: Firstly, we do not have any requirement at the moment for controlling the energy efficiency of cookers in homes. In answer to the second question, as I mentioned before, through the sustainability declaration at the sale of any home, we are going to include energy efficient cookers as a declarable item. That raises the possibility of including induction cookers. With respect to their energy efficiency, I am not sure about the claims. I missed the last question, I am sorry.

Mr DOWLING: The percentage of consumption overall for a home; what part of that is allocated traditionally to the kitchen as opposed to water consumption?

Mr Brumby: We think it is about eight per cent. There might be somebody in the room here who has a better view, but my statistics say about eight per cent—similar to lighting.

Mr DOWLING: Thanks, Glen.

CHAIR: Any further questions?

Mr Ball: We did a study back in the late 1990s and the heating energy for cooking was around six per cent to eight per cent of the margin. That just reinforces Glen's statement.

CHAIR: Okay. Any further comment, gentlemen? Peter, does that wrap up your questions?

Mr DOWLING: Yes, thank you.

CHAIR: Mark? The member for Morayfield, do you have any further questions?

Mr RYAN: I have a question about some of the programs that the Queensland government is offering at the moment. We have heard some good stories already about the ClimateSmart Home Service and the ecoBiz program. In respect of the ClimateSmart Home Service, are there any ideas or plans to expand that service and build on the success? I am thinking about people who live in multiple dwellings who might not have a separate electricity meter. I understand that they may be ineligible for the service at the moment. Is there any way that we are going to assist them with understanding their energy needs?

I will ask the ecoBiz question, too. We have had a lot of good, positive feedback about the ecoBiz program. I guess the only criticism we have heard is that it is a program that may need more funds and resources. I am wondering how we are going to build on the success of that program. Are there any plans for expanding the program?

Mr Brumby: In answer to the first part of the question, I omitted to say earlier that the government has announced through its cleaner, greener buildings policy a requirement to install electricity submeters in multiunit residential buildings and office buildings. That will take effect I think early in the new year.

Mr RYAN: So, once they get the submeter they will be eligible for the ClimateSmart Home Service?

Mr Brumby: That will be for new buildings.

Mr Quinn: Just to answer the second part of the question, the ecoBiz program is one of a suite of industry efficiency or sustainability type programs being run by DERM in cooperation with other government programs. Some of the ways that we are moving forward with that program are to try to deliver things that give a one-on-many type contact which spreads our funds further. Some of that work includes working with industry associations. We are currently talking to a number of industry associations about working with them to help them take their members through an efficiency and sustainability type program including things like sustainability ratings or being able to market their products for sustainability.

An example of that is the print industry association that we are in partnership with. The idea there is that we have a partnership with that association. I am not sure of the financial amount, but it is of the order of \$50,000 to \$60,000 with that association. Then it works with its members to help them through an efficiency process. Importantly, with printers everyone has their own green claims about efficiency, or waterless printing, or low VOC—all these different credentials. We have worked with them to develop a sustainable green print rating system, which is being taken up nationally so that big customers, such as governments or anyone else with social responsibility, can specify that they want a printer of a certain standard. We are trying to replicate that in other areas, basically along the lines of having something approaching as good as the star rating on an appliance. How do we do that with all the other products and services? That is working with associations.

The other thing we are doing to spread our funding is to collate all of the information which relates to the one-stop shop question before about information. There is information available that we have developed and DEEDI has developed which provides best practice for different industries—food processing, manufacturing, foundries and so forth. We are putting all that information together with case studies and technical guides such as how to get efficient lighting, how to manage green IT and so forth. So that provides an information suite. We are also doing some work which is once again an approach of working with one project on many businesses, which is rolling out some climate smart business clusters across the state. The idea there is that we provide funding of \$10,000 to an efficiency consultant who takes 15 to 20 businesses through an efficiency program. The take-up for that has been quite good. We are hopeful of doing another round on that shortly.

Another common challenge that business has is they do not know where to go for good information. If they are motivated to do something, they do not know where to get it or who to trust, and they want to hear a story from someone who has gone through it. That is the background behind our QWESTnet program, which is the Queensland Water and Energy Sustainable Technologies Network. We are bringing technology providers together with those who can do case studies and putting them in the same room as those businesses who want to make change. That has had some very good success so far. We will do more of that and we will run that out regionally.

With regard to things that are coming up, Mr Nielsen mentioned the Carbon Outlook project. Information coming out of that will feed into our programs which will be about providing the right information and diagnostics to businesses so they understand the impact of the CPRS. It will also feed into joint work that is going on between the department of environment and DEEDI to work up the ClimateSmart Business Service announced in the last budget, which is a \$15 million program to provide some tiers of support to businesses depending on their needs to help them prepare for CPRS.

CHAIR: Any further comment? The member for Maryborough has the final question.

Mr FOLEY: Very quickly, the discussion on a lot of technologies that we are toying around the edges with has been about wind, solar and so forth, but in a lot of ways they have almost become boring old technologies. It is more about the efficiency of being able to deliver those things. I am interested in the really cutting-edge stuff. It occurs to me that one of the greatest sources of energy we have in Queensland is hot tin roofs. Is there any really innovative work being done like heat stripping of tin roofs? What is the new stuff? In asking around, I have not seen too many answers to those questions. Who are the people doing the really new research and thinking outside the box?

Mr Quinn: I cannot answer on the research end but the Queensland Sustainable Energy Innovation Fund has had a number of great successes with companies recently with great technologies, one of which is a company called XeroCoat, which has developed a non-reflective coating for glass. It sounds pretty simple but it is a low-cost, easy way of putting on a non-reflective coating. Whether it is a solar panel or water heating, whatever is behind it gets eight per cent more power going through. Eight per cent more power is generated because that would otherwise normally be reflected from the glass surface. That has now attracted millions of dollars of investment. That technology is now in the US and it has also attracted some further investment funds there. Some of the other technologies that will help are things like the zinc-bromine battery developed by a company called Redflow, another QSEIF program.

Mr FOLEY: What is the name of that organisation?

Mr Quinn: QSEIF is the name of the program.

Mr FOLEY: What does that stand for?

Mr Quinn: Queensland Sustainable Energy Innovation Fund. The Redflow battery, the zinc-bromine battery, has a theoretical indefinite life and stores six times the amount of energy per weight. It basically solves one of the weak links in renewable energy.

Mr Nielsen: The Redflow battery is now on trial in I think 20 locations on Ergon Energy's network at the moment, mainly on single-wire earth return. It is very promising. You can use it for a number of things. You can actually take out peaks on networks, but in rural areas if the network is down for any length of time you have a backup supply.

There are other factors. We see quite a lot of technology coming through from mum and dad businesses, so it is good to see that there are innovation funds coming federally for those sorts of things. We are also starting to see a lot of technology come through universities. Interestingly, the defence forces seem to be an area that have been focused on this for a long time as well. It is pretty broad at the moment.

Mr Brumby: One point for the committee to note is that the setting of high stringency energy efficiency standards through building code performance framework helps to drive an enormous innovation in market mainly to deliver better outcomes at lower cost through performance measures for things like air conditioning et cetera. I think there are great strides being done in an enormous array of market areas in meeting very innovative performance measures. For example, you get buildings designed with sheaths in them that have air flow through them and termite systems, mimicking termite systems et cetera. Those outcomes are largely at the top end of the market at the moment, but they are rolling out across the sector as stringency goes up.

We can see that also in lighting. LED lighting has been produced very cheaply in China and the cost is coming down so they can be rolled out more effectively. The McKenzie report makes the point that the existing technologies, if they continue to evolve, are doing extremely good things for the environment at the moment without a great deal of need for better innovation. That does not say innovation is not required but, again, setting higher standards in industries like appliances and building codes does itself drive incredible innovation.

CHAIR: You just touched on LED lighting that is coming out very cheaply from China. There have been some complaints recently about cheap solar panels coming out of China. How do you differentiate between a good solar panel and a bad one?

Mr Brumby: We have a range of compliance mechanisms available to address market failures like that. For example, we have things like code mark and watermark systems for building. That allows a manufacturer to specify their manufacturing technique meets a certain performance and reliability level. The uptake of that is increasingly occurring but we probably need more of that.

CHAIR: Is there any more comment before I officially close the hearing? Some of us are on the speaking list for the next bill so unfortunately we have to get going.

Mr Nielsen: Can I just say that the positive note is that the agency has a lot of collaboration on this agenda. Energy efficiency is a primary issue for us, working with industry, working with the energy business. You are going to see a lot more focus on this together. Any encouragement from this panel for that would be really good.

CHAIR: Thank you very much. We appreciate that comment.

Mr Brumby: Madam Chair, I have a correction for the record. I am not sure whether the final version got to you. It did say environmental benefits from the outdoor living areas was 940,000 tonnes each year. That is a typo. It should be much smaller.

CHAIR: Can you tell me what it should be?

Mr Brumby: It should be 25,852 tonnes each year.

CHAIR: We will make sure that is corrected.

Mr Brumby: Thank you.

Mr Ball: If I may just add a personal experience, my daughter has recently moved house. I just happened to see the electricity bill was \$580-odd. She has five kids. I said 'goodness me' and she said, 'It is the dearest bill I have ever had. It is \$200 more than the old house.' So I convinced her to get a tariff 33 hook-up to the swimming pool filter. It cost her \$590 for the sparkie to run the cabling. I am now working on her to try to get a heat pump and to separate that onto another tariff as well. The supplier said that the box is too small and that she will need to get a bigger box. She rings and cannot get it.

There are a whole lot of logistical issues as to how this stuff happens. It is not just one phone call. It is almost like the subsidy stuff. There are a whole lot of dominoes that are lining up and they do not all have the same space. So you will not get a world record knocking one over. There are lots of those things to consider in the battle that we all take on to make this successful.

CHAIR: Thank you very much for those comments.

Mr Nielsen: If I could just note your point about simplicity. Simplicity has to be a big focus of this and sharing of information.

CHAIR: Thank you very much, gentlemen. That concludes our hearing. I thank my committee. There will be some questions on notice because, as I said, the member for Mount Ommaney and the member for Yeerongpilly are unable to be here, and I know they had some questions. We will forward them on to you. On behalf of this committee, I thank our Hansard staff, the witnesses and everyone here for their very informative comments today. I think the questions were answered very well and we are looking forward to those other written responses. The transcript of today's hearing will be on the website as soon as possible. If you would like a copy of the final report, please give your details to Rob Hansen, our research director, or Rachelle Stacey, our assistant research director, today and we will forward that on to you.

Committee adjourned at 2.45 pm