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Official Committee Hansard

HOUSE OF REPRESENTATIVES

STANDING COMMITTEE ON INDUSTRY, SCIENCE
AND RESOURCES

**Reference: Inquiry into increasing value-adding to Australian raw
materials**

THURSDAY, 25 NOVEMBER 1999

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HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON INDUSTRY, SCIENCE AND RESOURCES

Thursday, 25 November 1999

Members: Mr Lloyd (*Chair*), Mr Brough, Mr Hatton, Mr Lawler, Mr Allan Morris, Mr Nairn, Mr Prosser, Ms Roxon, Dr Washer and Mr Zahra

Members in attendance: Mr Hatton, Mr Lawler, Mr Lloyd, Mr Allan Morris, Dr Washer, Mr Zahra

Terms of reference for the inquiry:

To inquire into and report on the prospects of increasing value-adding to Australian raw materials. The Committee will start with an evaluation of the current state of value adding in Australia, and how that compares internationally. This will provide a base from which to evaluate the following topics:

- incentives and impediments to investment;
- intellectual property rights;
- national/international marketing factors which may encourage or hinder Australian value-adding;
- government intervention, both nationally and internationally;
- the location of value-adding industries and projects in regional Australia;
- resource licensing/permit arrangements;
- the impact of vertical integration within particular industries; and
- the Australian skills base and any associated impediments.

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Committee met at 11.09 a.m.

HARROWFIELD, Dr Barry Valentine, Former Program Manager, Cooperative Research Centre for Premium Quality Wool

RITCHIE, Professor Ian Mackay, Chief Executive Officer, A.J. Parker Cooperative Research Centre for Hydrometallurgy, Cooperative Research Centres Association

CHAIR—I have pleasure in declaring open this public hearing inquiry into increasing value adding to Australia's raw materials. I welcome the witnesses and other people in attendance. Today we will be taking evidence from the CRC Association, the Australian Aluminium Council and the Department of Foreign Affairs and Trade.

I remind you that the proceedings here today are legal proceedings of the parliament and warrant the same respect as proceedings in the House. The deliberate misleading of the committee may be regarded as a contempt of the parliament. The committee prefers that all evidence be given in public, but should you at any stage wish to give evidence in private, please ask to do so and the committee will consider your request. Professor Ritchie, do you have an opening statement that you would like to give to the committee?

Prof. Ritchie—I am representing the CRC Association.

Dr Harrowfield—I am representing the director of the CRC for Premium Quality Wool, Lionel Ward, today. My employment is with CSIRO Division of Textile and Fibre Technology in Geelong.

Prof. Ritchie—Alas and alack, we have not had a chance to confer. I have been travelling for the last 10 days, so we have not had a chance to put our case together. The CRC Association represents some 55 CRCs and we are fortunately here, one from the mineral side and one from the other arm of primary industries, namely wool. I think it is true to say that all of the CRCs in these two areas are engaged, in one form or another, in the general area of adding value to Australia's primary resources. Perhaps, when we move on, we could talk about just how one can add value, because there are several ways of doing this. Would that summarise the general state of where we are at?

Dr Harrowfield—Yes.

CHAIR—Do you have a prepared statement?

Dr Harrowfield—No. I think the general statement by Professor Ritchie is about right.

CHAIR—I have a couple of questions and then I will hand over to other members of the committee. Obviously, your submission shows that you believe the CRC program is a very useful initiative that both government and industry can play a part in. Do you want to expand a bit on the benefits that you believe are flowing from the CRC programs and the range in values? You talk about different ideas of R&D activities that have been encouraged and where the CRCs fit into this program.

Prof. Ritchie—I personally believe the CRCs are one of the most fantastic things yet produced. I think Australia is exceptionally fortunate to have such a program. I think the CRC program is something that many other countries envy. I certainly know that to be the case in the area of hydrometallurgy because referees from overseas, when we have applied for funding, have said exactly that. It is not just my opinion.

Let me give you my particular situation as it applies to the A.J. Parker CRC for Hydrometallurgy. If you will forgive me, because it is such a mouthful, I will call it the Parker Centre from here on. In Western Australia, where the Parker Centre originates—it now spans right across the country—we started off some eight or nine years ago with three competing groups—Murdoch University, Curtin University and CSIRO Minerals. I say, advisedly, that they were competing and that was exactly the state of affairs: they were competing for funds.

Collectively, they had no reputation whatsoever. Individually, of course, there were a number of talented people working in the field who had good reputations in their own right. Now, some eight or nine years later, we have the whole lot working collectively in consort. We have plugged holes which did not exist before—for example, using CRC funds. We persuaded Curtin University to set up an area of crystallisation that is very important industrially and, in fact, it has spread out to span such areas as crystallisation in the dairy industry.

Some eight years later, we now have a centre that is unquestionably the largest in the world and, in my opinion, unquestionably the best in the world. The editor of *Hydrometallurgy* attended a recent conference organised by the Parker Centre. He was speaking to the Deputy Premier of Western Australia, the Hon. Hendy Cowan, and he said, ‘Western Australia is where hydrometallurgy is at, man.’ I should have added the fact that he was an African-American, so he used that kind of phrase. It certainly encapsulated the situation. This would not have been remotely possible without the CRC program.

Dr Harrowfield—I would like to add that, in general terms to me and in the director’s opinion, the CRC program matches very well with the need to network and develop the supply chain context. That is particularly apt in the wool area where you have to develop the links between the growing, or the production of the wool, and the downstream users and ultimately the end consumer. That necessity to tie up that complete chain fits in very well with the cooperative nature of CRCs.

Particularly in evaluating aspects in Australia, we need to increase the amount of wool which is processed, particularly at combing stage. We will need experienced and well-trained people in that area as well. In the aspect that the CRCs offer the training side, the education side, that is also extremely important and valuable.

Thirdly, the emphasis in the CRCs on being industry-driven is at the guts of getting the things actually working. I think that is one of the keys to eventual success in whatever industry you are attacking.

CHAIR—Apart from government's providing money, which is, I guess, what everyone seeks from government, what do you think the government could do to improve the CRC program?

Prof. Ritchie—The money is desperately important. I am sure you would have heard by now from one source or another that the money is the glue which holds them together. So I am not happy for you to say 'apart from' because I think it is a very key component.

CHAIR—The reason I was saying that was because it goes without question that, if the funding is not there, they are not going to work.

Prof. Ritchie—The Parker Centre has been refunded for another seven years and the new board, which as Barry said now contains a very large fraction of industry people, has addressed, as the opening issue of greatest concern, how the Parker Centre can be made to survive into Parker Centre 3 at the end of another seven years of funding. It is agreed that it is very difficult to do this, but I do not think there is anyway the industry wants the Parker Centre to disappear from existence. Certainly, when we were threatened with that as we were in the selection exercise, they came galloping over the hill in large numbers to save us.

CHAIR—It is very good that you are even looking at projecting another seven years into the future. Often there are so many groups that tend not to look at the future and, all of a sudden when something happens, they tend to fall over because they have not got plans in place. So it is quite admirable.

Prof. Ritchie—The main task of the board is to make sure we survive beyond the next seven years.

Dr Harrowfield—From my point of view in answer to that question, the CRC program has been going for eight years now.

Prof. Ritchie—It started in 1991.

Dr Harrowfield—There are probably at the moment about 53 CRCs. There has been as many as 67. We would wish that the government looked favourably upon the nature of the CRC approach to doing research development and innovation and that it keeps that support going at that kind of level for the CRC program—in other words, keep up the good work and the attitude towards the CRC that has been shown so far.

Mr ALLAN MORRIS—In a previous report on research and development, the committee unanimously supported CRCs. I am not sure whether you have seen the report, but it would be worth your while looking at it, because it is currently with the government waiting for a government response. You will find in there a few ideas we put forward which may be worthy of support. It seemed from your comments that you were not aware of the report because it is the same committee, so I draw that to your attention. We would be interested in your comments. I think the government will also be interested in the response and comments of the research community.

I take your points about where you come from and the validity of your processes. This inquiry will cover a number of stages. This first stage is partly about benchmarking—trying to find out where we are up to and how we compare to other parts of the world in adding value to resources. It is obvious that we vary a great deal across different areas. There may be reasons for that. At some stage, we will do some case studies in particular areas to try to understand better why we have succeeded or failed, whatever it may be.

In the CRCs' capacity as expert bodies with a lot of information, is it possible for you to ask your member organisations to give some comment to us about how we are faring in their respective fields? I would say in black coal, for example, we are pretty well ahead of the world, but in other areas like magnesium or aquaculture we may be behind. Is it possible to ask for some comment on a comparative level? It has not been done so much before. There is an no instrument there to measure them automatically at the moment—there is in some fields but not in others. If we could get some help or any feedback you could give us about how we could compare ourselves, it would be helpful.

Dr Harrowfield—With respect to research, development, innovation or the quality?

Mr ALLAN MORRIS—No, value adding. Many CRCs are involved in areas which are adding intellectual value and adding processing value of some kind to resources. We are trying to get a yardstick on how we perform compared to the rest of the world in particular areas. If you could help us with that, it would be useful.

Dr Harrowfield—There are some comments in the submission by Lionel Ward. Very briefly, we comb about 15 per cent of our clip here. In other countries—South Africa, South America—it has been 60 to 70 per cent. It is that kind of thing.

Mr ALLAN MORRIS—Yes. Wool is one that we hear a bit about. I suppose a lot of us are concerned about the failure with that. There are many others probably as well. Perhaps the cooperatives could, in the areas where they are expert, give us some feedback. It may be that you have information on methodology that is not normally available. What we are finding is that the world does not do this very much. There are not instruments available very readily to do what we are asking in our benchmarking process. The CRCs may have better information, better resources or better parameters, if you like, than, say, the public service or the departments.

Prof. Ritchie—We will certainly take that back to the association and ask for comments as widely as we can. It will vary dramatically from area to area. In the minerals area, for example, if you are looking at new processes such as have been set up in Western Australia in the nickel area—converting nickel laterites to nickel metal—such major shifts in technology are relatively rare, even within Australia. There are a number of barriers to them happening in Australia. I actually wrote a paper on this topic some years ago—I gave Russell a couple of copies for your consideration, if that is of any help to you. I had meant to rewrite this for this committee, but I ran out of time so it did not get done. There are a number of clear-cut barriers to that which I have identified on pages 1 and 2—access to technology, access to markets, transport and so on.

CHAIR—Could I ask a member to move that this document be received as evidence.

Mr HATTON—Yes.

CHAIR—Thank you, Mr Hatton. It is so moved.

Mr ALLAN MORRIS—I actually did read one sentence from it—that is, ‘It is small wonder that politicians see downstream processing as a potential cure for the country’s economic ills, yet little has happened.’ I think that is partly why we are here.

Prof. Ritchie—Yes.

Mr ALLAN MORRIS—I think we are of a mind, Professor.

Prof. Ritchie—When I wrote that four years ago, I had no idea I would be fronting this committee right now.

Dr WASHER—I gather that in the industries you mainly deal with, the world demand for raw product and the price for raw product are diminishing. That statement, I think, is true. I would like you to comment on that. Based on that premise, how cooperatively and enthusiastically is industry investing in CRCs, because they must be fully aware of that? Can you make some comments on that?

Prof. Ritchie—I can comment on the minerals industry that we deal with, which is not the minerals industry across the board—hydrometallurgies associated with the processing of minerals using solutions. Our chief customers are alumina, gold, nickel, zinc and several others, titanium minerals, including strangely enough, diamonds. The minerals industry varies dramatically. We process very little of our iron ore and I do not know that the statement you made is correct in connection with iron ore. It seems to me that the demand for iron ore from external sources is just as high as it ever was. It is certainly an area where, in principle, it would be enormously to Australia’s advantage to convert that iron ore to steel or at least to iron before we send it overseas. Despite efforts by several companies such as BHP, that has not yet happened.

Within the chunk of the industry that we deal with, the situation varies considerably. In the case of gold, for example, gold is sent out as a final product. In the case of alumina, the alumina is largely converted to aluminium. I think from memory, and I might be incorrect here, approximately one-third is processed in Australia through to aluminium metal, but a substantial fraction of the alumina does go overseas. Again, from memory, of the order of \$3 billion worth is exported, where it is converted to alumina. In the case of nickel, the nickel metal is largely exported and then converted into stainless steel—again, we come back to this steel-iron issue. A relatively small amount of nickel is used elsewhere as I understand.

So it depends quite dramatically. There is, I would say, an increasing tendency, but it is very slow, to process to a greater extent within Australia. For example, if we look at the titanium pigment market, formerly we had only one such plant; now we have two. I still think that most of the titania is exported as so-called synthetic rutile, which is an intermediate step to making the pigment. We do have two pigment plants now, where we used to have only one.

Dr WASHER—Thank you.

Dr Harrowfield—On the wool side, the real price paid for the fibre has been falling over the last few decades at about the rate that you would expect of a commodity. It mirrors that in textile fibres generally—cotton and polyester. That probably reflects the changing world demand for textiles as much as anything, as well as what happens to a commodity anyway. So there are two levels on which wool must compete. Firstly, as part of the textile fibre market, it is really competing against all those other things that people world wide want to spend their money on—holidays, whitegoods, computer goods, cars and lifestyle things that have come in and exploded in the last 10 or 20 years—but it then has to do battle with the competing fibres like cotton and polyester. They are increasingly aggressive in the way they market their fibres and the sorts of products that they can put in there.

Demand, as you say, has fallen much below what we would hope and that is reflected in the price. The answer to that, therefore, is that wool must do two things. It must be able to follow that fall that is going to happen long term in a commodity item or, alternatively, it must find ways in which to be marketed in more niche areas and higher quality, higher value adding areas. There is an efficiency productivity thing that has to be addressed, as well as the way in which the products made from wool and wool blends with fibres are marketed to the consumer. It really is a difficult world out there, both for wool and textiles fibres generally.

How cooperative is the industry? There was a CRC for bid No. 2 which did not succeed. In my opinion, it would not have helped that there was not strong industry support in terms of money for that second bid. I think Lionel would probably agree that the support from the organisation set up to represent the wool grower, the Woolmark company, was perhaps less enthusiastic than we might have hoped.

In the future it may be more profitable to look at the people who convert the fibre into the comb wool raw material for the spinner. We could look with some optimism at the combing industry in this country, which is beginning to realise that some collaborative behaviour is the way to go to reduce the costs of combing, improve the quality of the product vis-a-vis other people who do it elsewhere in the world and also differentiate the product so that we can have shrink resist tops, for example. We can have longer tops and better quality tops. Perhaps other treatments can be put in to differentiate and add value in that way. There are exciting prospects, particularly linking up through a CRC in that area.

Mr ZAHRA—I notice that there is a CRC for black coal utilisation. I was fairly sure there was one for brown coal utilisation. Can you confirm that?

Prof. Ritchie—Yes, there is.

Mr ZAHRA—I must have missed that in your report.

Prof. Ritchie—That one went ahead first.

Mr ZAHRA—I notice that you pick out eight CRCs as examples and run through them in your submission. One of those is a CRC for hardwood, fibre and paper science. The brief

precis there of some of the stuff going on in that CRC mentions that the CSIRO forestry and forest products Division is a partner in that CRC. How compromised has the work of that CRC become when the forests and forest products laboratory in Clayton has half its staff made redundant and is reorganised by management? How much does that compromise the work of the CRC for hardwood, fibre and paper science?

Prof. Ritchie—This is not a CRC I have direct experience with myself. I am happy to make inquiries on your behalf, if you would like that.

CHAIR—I would be happy for you to take that question on notice.

Mr ZAHRA—The point which I am making is that everyone in this committee acknowledges the important work that CRCs are doing, but they do not act in isolation. If there are actions being taken by government departments which affect the good work which we need CRCs to undertake, then that is a consideration which we need to understand the ramifications of as well.

Prof. Ritchie—Quite clearly, in general terms, it must be devastating to have half the staff of one of the departments knocked out. That would be true for us.

Mr ZAHRA—Yes.

Mr HATTON—John Donne was a metaphysical poet who said in one of his poems:

Whatever dies, was not mix'd equally;

If our two loves be one, or thou and I

Love so alike, that none do slacken, none can die.

You have an interesting mix between scientists and business users. Yesterday in the Science Meets Parliament Day, Professor Cullen from FASTS indicated that the biggest problem he had in his CRC was the scientists and the users talking at cross-purposes. It had to introduce brokers, because the scientists were always talking about what could not be worked out or what could not be achieved and what all the problems were that needed sorting out in the future, while the business users naturally had a very direct interest in what things could be solved.

There is a communications problem in terms of the different points of view and aspects, but there is also another communication problem in terms of the language of the different users. How significant a problem do you see that across the CRC programs? Apart from that water one, where we have a particular example, are there brokers attempting to manage this so that they do not slacken and die, except for other reasons?

Prof. Ritchie—That is not an easy question.

Dr Harrowfield—It is a good question.

Prof. Ritchie—It is a good question, but it is not an easy question to answer, as the CRCs vary so dramatically from one to the other. In the case of the CRC that I am attached to, that is not in specific terms a major problem, but I will come back to the general case. For the Parker Centre, we do not have to invent something new but try and make what Australia has work more efficiently. Therefore, we have to be told by the industry what is wrong and what they need. We have to work closely with industry in achieving what they need and perhaps ultimately go on to the pilot plan stage and implementation. The most successful things we have done have been because of that close linkage.

In general terms, there is always a problem, because there is a culture which I honestly feel has come from Australian universities, stretching back some 50 or 60 years. The universities were staffed almost entirely by people who had done degrees in Cambridge or Oxford. That was the done thing. You sent your bright people from Australia from a particular university off to Oxford or Cambridge. Then they were set in the mould of Oxford or Cambridge whenever they came back. The result of that was that within the university culture applied research was not quite kosher. Gentlemen really did not do that kind of thing.

Mr HATTON—Part of our British heritage.

Prof. Ritchie—One of the unfortunate parts of the British heritage. A corollary of that was that it got right up the nose of industry people who, thereafter, frankly despised the universities and found them useless for their purposes. I believe that the culture has been broken down by all kinds of actions. I believe it is going, but there are still elements of it left over, which you can see. In the *Weekend Australian*, for example—not the world's greatest newspaper—there are three terms of abuse which you use when people are trying to push their arguments. One is 'do-gooder', another is 'social worker' and the third is 'academic'. Of those three terms of abuse, 'academic' is probably the most common. It is very unfortunate.

Mr HATTON—Probably their fourth is 'member of parliament'. Related to that cultural problem, which is not just between universities and business but spreads historically right through our community, there has been a disjunction between industry and all kinds of learning in academia. We also have another great disjunction in the R&D area. Most of the money has gone in from government to our academic institutions. Comparatively, our industries just have not come up to scratch. How successful do you think the CRC program has been, despite the changes that there have been from 150 to 125 in the R&D stuff, to pull industry up a bit and get it more involved in that process and doing more, given that it is to the industry's and the country's benefit?

Dr Harrowfield—I cannot speak for the broad scope of the CRCs. I can think in terms of the CRC for premium quality wool and what might happen next, and also—from a submission that I am involved in—a CRC in technical textiles, which is a big growth area in Australia. While I understand perhaps what has happened in the past, and that cultural and language problem, the beautiful thing about a CRC, if it has a strong industry driven component, is that that is the way in fact to bridge that gap. If you have a board there which is essentially industry players on a CRC, who have some control of the whole thing, they will feel that they are running the show, or having a very significant input into running that CRC. The language problem is then overcome, partly because of the education program,

which, if it is set up properly, will have things like even masters degrees or PhD components which can be linked in with industry as well. So they learn the language of the scientists, if you like, and they learn how to do R&D. By the same token, the scientist starts to learn and understand—and has to understand—the language of the industry. I think that is at the core of a CRC which is working well, with the industry components in there. It is a comanaged environment, which is what it has to be. It cannot be research provider/customer separated if it is going to work properly.

Mr HATTON—One of the strengths of the CRC program is that it is so disparate and spread right across Australia. In part, that emerged from the fact that Adelaide ended up with a proposal that the Japanese wanted elsewhere in the hinterland in Queensland. So we came up with the CRC approach.

This next question relates to the concordance, if any, between CRCs and the Australian technology park and its mode of operation—the one at Everleigh, where you have got the major universities in Sydney and industry being pulled in together with that technology park. Is there much interflow between the ATP and the CRCs, or are they operating at completely different levels? If there is not, do you think there should be, to be stronger in terms of an aggregation?

Prof. Ritchie—There is a technology park in Perth which happened to have in the past one or two mineral processing companies. In general, we have no interaction with the one in Perth. I imagine, but I do not know, that the same may well be true with the one in Sydney.

Could I add a comment. Just listening to your question triggered a memory. At our last board meeting, we were taken to task by one of our industry representatives because our mission statement or our aim is to supply the world's best science and technology to those industries practising hydrometallurgy. That is a laudable aim, I might say, but one which did not give satisfaction. One of the industry members said, 'You've got it all wrong, because that is an enabling statement, not what you should be doing. What your mission statement should say is that you should be adding value to the Australian mining industry by supplying the world's best science and technology.' So I offer that you to as something which seemed to me to be very evocative of the way industry feels about things.

Mr HATTON—If I could just then follow on from that and ask this—

CHAIR—Just before you ask that question, Mr Hatton, I am aware that Professor Ritchie has another commitment very shortly.

Mr HATTON—Yes, I will be quick. There is a density if you go to Silicon Valley. There is a density if you go to Boston—or Cambridge actually, where you have got MIT and Harvard University, where there is an aggregation of talent and programs and where there is a life emerging from the mix. There is also a density in Korea when you go to their major industrial park. If you like, it is a whole combination of CRCs in the one place. But from my observation of them, they do not actually talk to each other at all. They are just co-located and they are very isolated from each other.

Do you think, on top of the programs we have got now, we should actually have areas developed—whether they do it naturally or whether they are assisted—where we can get a greater mass and a greater interaction? That is apart from the CRC programs, which are dispersed. In particular areas—information technology, for instance—we are getting a co-location in the northern part of Sydney, in Ryde. Do you think that is one of the things that we are really missing—an increasing capacity in value adding—because we have not got the density that other countries enjoy?

Prof. Ritchie—That is another very good question.

Dr Harrowfield—Very difficult. My own reaction to your question, Michael, is that co-location can be physical but the mental side is also extremely important. I am very interested in the sort of discussions that are going on in the technical textiles area at the moment, where industry players are getting together. I think the major questions are not so much the physical placement, but questions like how could we collaborate, what do we do with intellectual property, who owns what we do—the very things that CRCs have to address. So I am saying that I think, yes, in some cases, perhaps physical location is important. But the other issue is just as important—perhaps more so.

Prof. Ritchie—Could I make a comment which may bear on this? Years ago—and I have since come to believe that it has a large measure of truth in it—somebody once said to me when we were discussing the schools versus faculties, et cetera, ‘The real unit is the building, because, try as you will, transfer across the building boundary edge is not that good.’ In our particular centre we do remarkably well, I think, in transferring across that boundary edge. But if you said to me, ‘Would we do better if we were all put in one building together?’, I would have to say we would all be a lot better off if we were all in one building together.

Mr HATTON—I think that is the experience in the Australian Technology Park at Everleigh, which they have constructed in such a way that people are actually forced to come together for coffee and that sort of thing—and there are public spaces. You get an interaction that would not otherwise take place.

CHAIR—Is there just one very quick question?

Mr ZAHRA—My question is for Dr Harrowfield, so Professor Ritchie, if you need to go before this question gets answered, please feel free to.

Prof. Ritchie—I happen to be here simply because I am attending the CSIRO medals awards which are in the Great Hall. They are due to start in a few minutes, so, if you would forgive me, I would like to leave.

Mr ZAHRA—We do not want to hold you up.

Prof. Ritchie—I would like to make one final comment which has been ticking away at the back of my mind. I do believe the CRC program could be improved. I do believe that some of the rules that are in operation are highly restrictive. For example, the industry with which I deal does not like making commitments for seven years, and yet they are compelled

to. We all understand that they can get out with a year's notice, but even with a year's notice they still do not like it. They have a force behind them which says, 'When we make commitments, we make them for seven years but we don't want to make them for seven years because we don't know where the industry is going to be in seven years.' There are several key rules in the CRC system like that which I believe, if they were softened, would greatly improve it. Secondly, I do believe that some change in emphasis in the way the secretariat deals with the CRCs could be to everybody's advantage.

Mr ALLAN MORRIS—Professor Ritchie may have made those comments in response to the report I mentioned earlier, which may help us here. I would encourage you to look at that report.

Prof. Ritchie—I will try and do so.

Mr ALLAN MORRIS—I think you will find that we looked at some of those problems.

Prof. Ritchie—They were just two of the things you asked about earlier, and I did not actually pick it up.

Mr ALLAN MORRIS—It would be helpful to build on.

CHAIR—The secretary has just advised that we will send you a copy of that report.

Prof. Ritchie—That would be a fantastic help. Thank you very much for the opportunity for putting in a case. I really appreciate that.

CHAIR—I thank you, Professor Ritchie.

Mr ZAHRA—I noticed before, Dr Harrowfield, that you mentioned you were involved with the CRC for technical textiles. TCF is very important in my electorate. We have two important TCF employers—Rocklea Spinning Mills and the Givoni clothing company—both in Moe. Previously at this committee I have spoken about the textiles, clothing and footwear strategic investment program scheme which the government has initiated.

Can I ask you whether or not the CRC for technical textiles has been involved in the preparation of the draft document which is presently out amongst certain TCF employers and a couple of other stakeholders. I think this relates to our understanding of the role which the governments allow for CRCs in terms of their policy development. For example, if your CRC was not directly involved in this, all sorts of alarm bells would be going off in terms of how seriously governments took the role of CRCs.

Could I also ask this, while I am at it—and I think it was about five weeks or six weeks ago when I last raised this particular issue, when we had the department here. I raised some concerns about the selection criteria for communities which were to be classified TCF dependent. The department undertook to get back in response to my concerns that the town of Moe and the people in the Latrobe Valley would miss out. They have not done that, and I would appreciate it if the secretary could follow that up for me. I am obviously very keen to

make sure the people in my electorate do not miss out on some ridiculous criteria that they might arrive at.

Back to my question: have you been involved, and what has the involvement been, in the preparation of that strategic investment program scheme?

Dr Harrowfield—I should have made it clear that this is a proposed CRC with a view to being a successful CRC in mid-2001. I have forgotten which round it is—the seventh or eighth round. That CRC does not exist yet and it has not been part of that presentation.

Mr ZAHRA—For my benefit, what type of work would you see it undertaking that might be relevant to the TCF employees in my electorate at spinning mills and the clothing company? What exists in my electorate would be typical TCF employers in other parts of regional and rural Australia.

Dr Harrowfield—Yes. I cannot specifically identify project areas, but we did have representatives from Rocklea yesterday. At the initial meeting we had 50 industrial players there to gather together to express and put forward a submission and a case for that. Rocklea was certainly one of those, but the technical textiles area is very broad and very deep. It is, essentially, for textiles which are not primarily for adornment or display. You can go right across the awnings, the blinds, the protective wear, military clothing and equipment and right through the non-wovens industry. You name it; if you have the industry there to do that, you will probably find an application.

Mr ZAHRA—Thank you very much.

CHAIR—Thank you very much, Dr Harrowfield, for your evidence today.

Dr Harrowfield—Thank you for inviting me along. It has been a very interesting discussion.

[11.56 a.m.]

COUTTS, Mr David Lawrence, Executive Director, Australian Aluminium Council

CHAIR—Welcome, Mr Coutts. I remind you that proceedings here today are legal proceedings of the parliament and warrant the same respect as proceedings in the House. The deliberate misleading of the committee may be regarded as a contempt of parliament. The committee prefers that all evidence be given in public, but should you wish to give evidence in private at any stage, please ask to do so and the committee will consider your request. Would you like to make an opening statement to the committee?

Mr Coutts—Thank you very much, Mr Chairman. The Australian Aluminium Council represents the aluminium industry as a whole, and therefore I am representing the Australian aluminium industry. We have lodged a submission which I presume is available to the committee.

CHAIR—Yes, it has been provided to us all.

Mr Coutts—The key points are really in there but maybe, if it is useful, I can just underline one or two things.

CHAIR—If you would like to, or we can go straight to questions and flush out the issues during discussion. It is up to you.

Mr Coutts—What I perhaps would like to do is just maybe in a sense almost follow the question that was asked before the hearing started. I think it is actually quite important because the main reason why aluminium is very relevant to this inquiry—there are several reasons—is that it is a pretty big success story for Australia in terms of taking relatively low-grade raw material—that is, bauxite—and turning that into something that is much more valuable both in terms of use in Australia and in terms of exports. So you take the bauxite and you turn it into alumina, as I said a minute ago, which increases the value roughly 10 times per tonne of material. Then you take that alumina, and most of it goes into making aluminium in smelters. That increases the value another 10 times. So by the time you get to aluminium metal you have increased the value 100 times from the raw material, which I think is a pretty big value adding exercise.

In addition to that, you then take that metal and you make it into what is called semifabrications, which are extrusions and rolled material—windows and things like that. That adds quite a bit more value. Then, of course, you have the products at the final end. Australia really is involved in all those sectors. Quite a lot of our metal is exported, so we do not turn all the metal into semifabrications and final products in Australia, but we do turn quite a significant amount of it. Some of that in itself is also exported. It is a very big value adding industry for Australia, a high-tech industry—one, however, that uses a lot of energy, particularly electricity. If anyone saw the *7.30 Report* last night, there was a debate on that which I can add to if you want me to.

The only other thing I would say by way of introduction is that we are a world-class industry. As I have summarised in the report, but just to underline again, we are the largest

producer and the second largest exporter in the world of bauxite. We could be the largest but we prefer to process it here. We are still the second largest exporter even then. We are the largest producer and exporter of alumina. Over 30 per cent of the world's alumina comes from Australia. Over 20 per cent comes from Western Australia. We are the fifth largest producer and third largest exporter of aluminium metal. So it is a world-class industry. It is a global industry but we are very much integrated into that global industry and, particularly for alumina, are at the leading edge of research and development and high technology to run alumina plants. We are the world leader in that.

The only other thing I would say is that we are also a regional industry. I did not put a map in the submission—I probably should have—but, if it were useful to the committee, I could leave a little map that shows where the industry is located. I do not know whether that is of interest.

CHAIR—That is fine. I would like you to table that. Is it the wish of the committee that the map be accepted as an exhibit? There being no objection, it is so ordered.

Mr Coutts—It indicates that the industry is really not a capital city based industry; it is one that is very important in the regions. I do not know whether you can see the map, but a lot of the industry is in Western Australia. It is mainly alumina. It is in the Northern Territory—by far the largest industrial operation in the Northern Territory, at Gove. It is at Gladstone, in the Hunter Valley, in northern Tasmania and in Victoria. All those operations are regional operations, and in some cases they are very major operations for the particular region. I will stop there. If the committee has questions, I am very happy to answer them.

CHAIR—I will start off. You have just highlighted how successful the industry is. I spent some time in Gove in a previous life and included the hydrographic survey of the harbour up there so they could get some of the larger ships in that were getting close to the sea bottom, so I have really been involved in a way quite closely with the industry and have seen how valuable it is to Australia.

Would you elaborate on the particular factors that have assisted the growth of the industry in Australia and what we have to do to maintain that competitiveness? You might like to also expand on what countries are our main competitors and, if they have certain advantages over us, what we can do to counter that.

Mr Coutts—As we have indicated in the report, there are particular reasons why this industry has been successful. It is a relatively recent industry. It really only started at perhaps the beginning of the 1960s, effectively, and it has grown quite rapidly since then. The main reason why it has done that is that, firstly, we have the raw material, bauxite, in abundance. We did not really know that until the 1950s, even though Matthew Flinders did see red cliffs way back when he was sailing around. But we do have that in abundance. It has been quite a technological challenge to take that bauxite and economically process it into alumina and aluminium. It is quite difficult technically. An alumina refinery is a very big chemistry set and has to be very finely tuned to be competitive. All the bauxite is different, so it is quite a technical challenge. Some of the bauxite that we have got in Australia was originally thought not to be economic, but one of the things that Australia has done is develop the technology to competitively process that bauxite.

The second thing is that Australia has had very competitive supplies of energy, both direct energy and electricity. One thing you need for an aluminium industry is a lot of competitively priced energy. That is where it is produced everywhere in the world. The third major factor has been basically Australia's competitive economic system by world standards. We all have our views about that, and there are various issues we are always facing, but on world scale our economic system has been an attractive one to invest within Australia. The fourth one is that we have a stable political system and pretty good infrastructure to support the industry. Nothing in those last three is absolutely perfect, of course, but by world standards it is competitive. We also have a good level of education and training. As it is a high technology industry, you do need that support to make it work.

In terms of competition, Australia is in a fairly unique position in this industry. As far as bauxite and alumina go, there is really no competitor in the developed world for those products. It is with the developing countries that we basically compete, certainly for future investment. There is some alumina produced in Europe and North America, but they are older plants on relatively poor reserves. So it is competition with developing countries, in the case of alumina particularly in Latin America, the Caribbean, India and some parts of Africa.

In the case of metal, the competition at the moment in terms of selling our existing production is pretty broadly spread. There is Europe, North America, Latin America, the Middle East and Africa. But in terms of future investment Australia again is pretty unique in that, apart from possibly Canada, there is no other part of the developed world where there will be significant investment in the aluminium metal industry except Australia. The competition again is the Middle East, South Africa, Latin America and Asia. To some extent there is Russia, although the situation in Russia is so confused that no-one quite knows where that is going.

In my view, the big challenge for Australia is in terms of how to get that investment for Australia. I think it is going to happen. It has great potential to happen if we can get one thing right, and that is the future in relation to energy supplies and electricity. There is a debate going on in the public arena now around electricity and greenhouse, around whether the aluminium industry is subsidised for electricity. I am happy to comment on that if you want me to. But the bottom line is that we have had a look and we think there is clear potential for the industry to grow by about 30 per cent in both alumina and aluminium in the next 10 years. There are projects on the board at the moment. There is expansion going on in Western Australia. There are three aluminium metal projects either up for expansion or a new smelter, at Lithgow in New South Wales.

CHAIR—Yes, that is quite exciting.

Mr Coutts—I think there is some interest in Victoria as well at the possibility of some projects, particularly to try and harness again some of the value adding opportunities. Australia has been identified by the government agencies as a good place to invest in vehicle components in aluminium. Given that you are trying to make more efficient cars, the best way to do that is light weighting, and aluminium is the most competitive material to do that. Investment in die-cast engine component plants adjacent to smelters, where you take hot metal and put it straight into the die-cast plant, is definitely a big opportunity. All the regions and smelters are looking at that at the moment.

CHAIR—How do our electricity costs compare to overseas costs for electricity? Do you have a direct correlation of that?

Mr Coutts—It is not easy to get that information, because a lot of it is commercial-in-confidence. Unfortunately, I cannot table this report, because it is not quite finished yet. This is a study of the economic and social impacts of the industry in Australia. I am happy to send it later to the committee when it is released, if you would like me to do that. Hopefully, it will be out round about Christmas or something like that, if that is still within your time frame.

CHAIR—That certainly is within the time frame, and I think the members of the committee would be very interested.

Mr Coutts—I will make sure I do that as soon as it is available. We are looking at that there. They usually talk in terms of cost curves and being in the bottom, middle or upper quartiles of that cost curve. Australia is just in the bottom quartile, cheapest, but we are certainly not the cheapest in the world by any means in terms of electricity costs. We are under some challenge with greenhouse as to where that is going to go. We are competitive; we have to be. You would not be in business if you were not competitive in this industry. You have to be energy efficient to be competitive in aluminium, and Australia is there. We have some figures which show we are the world's most efficient region in terms of the amount of electricity used per tonne of metal produced. We are the best in the world at that at the moment.

CHAIR—You mentioned the challenges with greenhouse. Did you want to elaborate on how that impacts on your industry?

Mr Coutts—I think it might be useful because, if you are thinking of where this might go in a value adding and regional development context, it is critical. The government has made a commitment to meeting the Kyoto target for greenhouse. We regard the commitment to get to 108 per cent of 1990 levels by 2010 as a very tough challenge. Not everyone agrees with that, but we have looked at it pretty closely and it is, because Australia is an energy intensive economy. A lot of our exports and industry depend on that and, if the economy is going to grow, as the government tells us, by four per cent a year—and there were some figures which came out I think only yesterday saying that at the moment we are growing at about 3.6 or something like that—then demand for energy is going to rise very strongly and that is going to make that target very hard to achieve.

If the government decides to try and do that through raising energy costs, and that is the impact of some of the measures that are being considered, then the aluminium industry is going to have some challenges and it can start to make Australia look a less attractive place for future investment than other places. As I said to you before, most of our competitors—all of them really except Canada—for investment in smelting, in the metal making, are outside what is called annex B of the Kyoto protocol, so they are not affected by the Kyoto protocol.

If everybody was affected by it then I do not think we would have a problem, because everyone would have to face the same challenges in terms of greenhouse. Countries like India, China, Russia and South Africa are all fossil fuel based mainly for their electricity for

this industry and they are not covered by the protocol. So there is a big challenge there. If the electricity costs and energy costs do rise dramatically as a result of responding to greenhouse, it is a problem for the aluminium industry.

Other countries are tending to address that. Some other countries have the same problem, and in most cases they are looking at the aluminium industry on a slightly different basis to other parts of the economy. That does not mean we are asking for exemption, but it does mean that as an industry I think we have got to sit down with the government and look at what we can best contribute without completely destroying future investment.

Mr ALLAN MORRIS—I would be interested in looking at those figures on energy and other things—

Mr Coutts—That will all be in this report.

Mr ALLAN MORRIS—Good. Our previous witness, Professor Ritchie, wrote a paper back in 1995, and in that paper he made this comment. I would like your response to it:

For example, Alcoa of Australia is the largest alumina producer in Australia and has a large and talented research group serving Australia's refineries here and overseas. Yet it was not until three years ago, some 28 years after commencing operations, that Alcoa started to sell a purer grade of alumina, in addition to the smelter grade alumina which forms the staple product of its operations.

The point he was making there was that one of the largest companies was not producing a raw material that was used in other feed stocks—zeolites and abrasives and so on—and there appears to be no explanation of that. Do you want to comment on that?

Mr Coutts—That is probably right. I have not seen that report but I do not dispute the truth of what is there. Ninety per cent or something of alumina goes to metal making and about 10 per cent which goes to chemicals and abrasives and things like that. You do certainly need a different grade of alumina for that, a hydrated type of alumina as against a very dry alumina, and certain grain size purity. Some other operations in Australia have produced that alumina, so it has not been not supplied. We have had other refineries that have done that.

There are two other reasons for why I think it would have happened like that. One, the bauxite and therefore the process of producing alumina in Western Australia has been a particularly difficult and high-tech one. The grade of bauxite has got a lot of silica in and it is very difficult, and therefore it was an additional technical challenge to produce the required grade of alumina. Obviously you can do it, but to do it economically from that bauxite has been very difficult. That is my understanding. And so what has happened really is that Alcoa has made some investment in research and technologically and new equipment to now produce that sort of alumina. You have got to remember too that Alcoa is a global company and they would be making a decision as to where in their global operations they would produce that sort of alumina. It is good in a way, I think, that Alcoa has now decided to produce it in Australia.

Mr ALLAN MORRIS—I guess in a way I was trying to elicit that kind of position. As you are aware, we are trying to deal with some benchmarks on how we are going in various

industries and so on, and your industry is certainly one where we are ahead of the world in the sense of the amount that we process beyond raw material. But we still have that export to Swissal—they are still taking bauxite, aren't they?

Mr Coutts—There are some bauxite exports. We do not process it all—absolutely.

Mr ALLAN MORRIS—So there is still some room for improvement?

Mr Coutts—Yes. If we could process more, that would be very good.

Mr ALLAN MORRIS—So there are drivers and inhibitors, I suppose, and those are the two ways of looking at it. The drivers are economics and profit and all the rest of it, and some of the inhibitors may well be the fact that it is a global industry and companies will locate to their best advantage, not necessarily economic advantage. It is hard to weigh up why the decisions get made, why they are selling Kurri Kurri, for example. It is hard to work out where, amongst all these things, they make decisions that impact on a sovereign country, but we often cannot work out why, because we do not necessarily know all the ingredients of the story.

Mr Coutts—Your comments are very pertinent, Allan. The key point is that it is a global industry. It is a very big industry. You need billions of dollars to build one of these very high-tech facilities. It is not an industry which, in any country in the world, is developed when there is very heavy government subsidy for some national operation. It is funded and financed only like that. The commodity moves around the globe very freely in trade. If Australia is going to be part of that global industry, it really has to be part of a global investment plan.

Mr ALLAN MORRIS—I accept that.

Mr Coutts—They are going to make decisions then in the global context as to how they can best do the business. The very good thing for Australia is that, at the moment anyway, a lot of those decisions are made to come to Australia and to do it in Australia, but not all of it obviously.

Mr ALLAN MORRIS—You can argue that cheap electricity, which may well be subsidised by others, has actually been an ingredient. I do not want to get into a debate about that. What I am trying to say is that the competing elements that actually impact on decisions within a global industry are not necessarily always known to us. So the compatibility of government policy or national policies and industry drivers, inhibitors, is very difficult because the industry does not tell us all of its ingredients. Your industry is particularly opaque about that at certain times. I guess you can see our quandary.

We actually want to have more industry and we want to have policies which are harmonious with good investment in that industry, and to produce more value adding and all the other things that flow from that. But when we do not know all the ingredients, it makes life very difficult. We talk about global forces and global decision making, and the implication is that we all understand all the ingredients, but the fact is that the industry knows we do not. How can we better improve things to ensure that all of the ingredients are

understood and known from an industry? Why can't industry be more transparent? That thing about energy prices being commercial-in-confidence and so on, being top secret, well some people know them. Alcoa would know the energy prices all over the world and so would Pechiney, I suppose, but governments do not.

Mr Coutts—They would know their own, but they would not know other people's—or they are not supposed to know other people's.

Mr ALLAN MORRIS—They do in most countries. The thing is the ones who do not know are probably governments. The government is in the least advantaged position in trying to establish policies that are compatible, so if the industry wants us to be supportive of compatible policies for their development, the industry needs to recognise that it needs more transparency and a better understanding of the ingredients, so that we do not get caught up in the wrong issues in the wrong way. Is that a fair comment?

Mr Coutts—I think there are some very good points there. I would like to respond to a couple of them. Is there time to do that?

Mr ALLAN MORRIS—You have time to think about it.

CHAIR—We will have to suspend the hearing at this moment for a division in the House. I apologise to the witness.

Mr Coutts—I am happy to wait.

Proceedings suspended from 12.15 p.m. to 12.31 p.m.

CHAIR—Thanks to that division in the House, we are fairly short of time. If members are relatively happy, if there are a couple of burning questions that we have, I am happy to have them now for the next 10 minutes, but my understanding, Mr Coutts, is that your industry will be one of the industries that we will be profiling in the second stage of the inquiry.

Mr ALLAN MORRIS—That is news to me, Mr Chairman.

CHAIR—I would suspect that it will be one of the industries, Mr Deputy Chair.

Mr Coutts—We are very happy if you wish to do that.

CHAIR—I would like to see it be one of those.

Mr ALLAN MORRIS—Mr Chairman, perhaps Mr Coutts should make that response in writing. The issues include, for example, R&D tax concessions, when often the R&D is owned by an international player and can be used against our companies. There are a number of other issues: public policy, where public policy and corporate policy may be in contradiction or may be in opposition, which makes it difficult for policy makers trying to attract investment; value adding, when there is a lack of transparency in information about the industry and competing objectives, which may be against the national interest; and,

ownership of international property, which can be used in other countries, like using R&D in Australia to develop, say, a mining technology which you then take and use in Africa or in Indonesia in competition to our miners, or technical process, or mining process. So they are the kinds of issues I would be interested in you responding to. Perhaps you might do that in writing, Mr Coutts, given the timing. It is a very complex issue.

Mr Coutts—I am very happy to send a written response. If there were just a brief moment, I would not mind making a comment on one or two of them.

CHAIR—That is fine, if you would like to comment.

Mr Coutts—I am very happy to elaborate in writing, if that is what you would like.

CHAIR—That would be fine.

Mr Coutts—I will not address that last question on R&D. That is quite complex. The arguments are very clear and they are not to Australia's detriment, I think. I will certainly elaborate on that in writing. Really, the main thing I wanted to cover—perhaps two things—was the power costs, the electricity costs, because this is in the public debate quite a lot at the moment.

The answer that I give to that—and I think it is the right one—is that we are not subsidised for electricity, that the aluminium industry signs 20-year-plus contracts for very large base load take-or-pay power. The price that is paid for that is a commercial-in-confidence matter. It would be in any business, not just aluminium, but it is certainly lower than householders or small business. That is entirely appropriate because of the nature of the contract that you have. It is a commercial arrangement done competitively though, as it is everywhere else in the world, and the basis in Australia is exactly the same as everywhere else in the world. Indeed, it is probably a bit more efficient in Australia than in a lot of other parts, with our emerging national competitive market.

That is, in my very honest view, there is no element of subsidy in there. Indeed, the prices that we pay are not the lowest in the world. Hopefully, they are down towards the lowest quarter but they are not the lowest in the world. If you want to keep investment in this industry, you have to keep your power prices in that bottom quarter or you are not going to have the investment, because it does not pay. Some figures have been mentioned in the public debate, like \$2 a kilowatt hour, which is \$20 a megawatt hour. There has been a lot of electricity sold in Australia in the last couple of years for less than that. I think it is just not tenable to call that a subsidy. It is a commercial arrangement. If you want an industry like this, then you have to have those contracts.

Those sorts of contracts are very valuable to the electricity industry, because they give a very big base load which it knows for a long time. It can sell and can just keep generating it, and it knows exactly what it is going to get. The industry is going to take it no matter what. The electricity industry can therefore manage its swing production—which it has to turn on and off quite regularly because it is supplying households and things like that—much more effectively if it is sitting on this very big base. If you are sitting it on a very small base, it is very costly to manage that. In addition, aluminium smelters can cut back a little bit on

electricity usage if there is a crisis; that is a valuable thing, too, for management. I would like to put on the record, if I could, that we do not accept that there are subsidies. The aluminium industry is a basically unprotected, world competitive industry.

The other point I would make is not really directly in answer to Allan. The greenhouse issue, which you asked about, is of critical importance to us. I would like to underline again that there is great potential for future investment in this industry. We have said there will be about 30 per cent growth by 2010, but it cannot happen if the implications of what we are doing on greenhouse are not properly evaluated. It does not mean that the aluminium industry is not more than happy to make every contribution it can to greenhouse, but it has to be consistent with maintaining competitiveness.

The last thing it says on greenhouse is that since 1990, the industry has already reduced our direct emissions in the smelting sector by nearly 40 per cent. That is not electricity, because we do not generate that; that is outside the industry. But in terms of what we can do directly, we have done it. I think you will find that is probably pretty well more than anyone else has done so far. But when you are at the top level of energy efficiency in the world, you cannot go very far. You can in the very long term because there may be new technology which will come along, but you cannot do it in a couple of years. If you are happy, I will give some more response in writing to your question.

Mr HATTON—You have dealt with most of the other challenges. You say that an industrial relations system that is effective is a future challenge. What do you want?

Mr Coutts—I think we want an industrial relations system that does give you the opportunity to manage your work force and employment in the most competitive way possible, consistent with what the national standards are, and not to have a situation where you have restrictions and problems in moving towards world's best practice. I think the industry, basically, is reasonably happy with the direction that policy is going at the moment.

Mr HATTON—That is very general.

Mr Coutts—Yes, I know.

Mr HATTON—That is one mantra statement followed by another one. Is it in there just because it is a mantra statement or are there significant problems within the aluminium industry in terms of the way things have been done?

Mr Coutts—It is my belief that it is not the number one issue that we have to deal with at the moment. It is important, obviously. But I think some progress has been made in recent times. It is like everything, though; it is a key item of managing your operation and therefore eternal efforts to improve are always important. But it is my understanding that the general policy framework, at least, is one the industry is reasonably comfortable with at the moment. I do not know that I can say anything much more specific on that. It varies from company to company and state to state and all that sort of thing.

Mr HATTON—But is there deficiency in the amount you have to pay people or the rigidities of the work practices, despite the obvious changes there have been over the last two decades?

Mr Coutts—I think the problems, to the extent that there still are problems, are probably in work practices and those sorts of arrangements more than general salary levels and things like that.

Mr HATTON—All of which, as has happened in the past, can be worked out between the companies and their employees within the existing structures?

Mr Coutts—I think that is what is happening, yes.

Mr HATTON—And we have seen an increasing competitive improvement over time?

Mr Coutts—Yes.

Mr HATTON—So I will take that as probably just a mantra one that was thrown in because the important statement that you made to almost contradict that is, ‘We have got a highly educated work force with considerable advanced technological skills, which is critical to the operation of the industry’.

Mr Coutts—Yes.

Mr HATTON—So it is not a case of wanting to flush people in and out with low levels of skills.

Mr Coutts—No.

Mr HATTON—You have to provide people with adequate conditions and flexible working arrangements and a much broader range of opportunities than in the past. I would think you could actually do it under what we have got now, but also what we had in the last 10 years or so.

Mr Coutts—Certainly. As I said, I think the industry is reasonably comfortable with the general framework at the moment, but there are still obviously some challenges and there always will be, because you are on a continual path to improvement. The industry certainly does need a highly skilled, motivated and trained work force and it has that on the whole. But it does need the conditions to make them work.

Mr HATTON—I would just suggest it is best achieved cooperatively.

Mr Coutts—That is right. I said to you that I believe it is not really the number one challenge that the industry as a whole is facing. There are differences between different operations and they have their own arrangements. Some of them have taken one path and some another. Some are further down the track to achieving what they want to achieve than others. I think they are all reasonably satisfied that they are moving towards a better situation from a reasonably good base already.

Mr HATTON—Thank you, Mr Coutts.

Mr ZAHRA—I have been asked to be brief, so I will try and be as direct as I can. I am particularly interested in the comments which you made about energy usage and the nature of your industry, being as it is energy intensive.

The task of our committee here is to determine impediments to value adding. I am wondering how much people involved with your organisation have got a handle on this. The new Labor government in Victoria is committed to building an energy park in my electorate in the Latrobe Valley. We have a significant cost advantage in terms of electricity. I am not sure exactly what the figure is, but I understand that we are talking in the vicinity of 20, 30, 40 per cent—a substantial energy advantage which I would have thought that companies, particularly in the aluminium industry and also in the magnesium sector, would be keen to take advantage of.

I noted before in your remarks that you said that there were problems in obtaining information about energy costs and in accessing where the cheapest electricity is internationally, which I find surprising. We have had a witness at this committee previously from one of the departments or the CSIRO—I cannot remember exactly. I am sure by referring to previous transcripts we can find that out and perhaps provide that to Mr Coutts. I find it surprising that that information could be viewed as commercial-in-confidence when I think that that was a public document which they provided to us. My question basically is: what do you think about that development in the Latrobe Valley, and is this is the sort of thing which governments should be getting behind, because there is obviously a net flow-on in terms of value adding?

Mr Coutts—On the electricity costs, maybe I do need to clarify that. I was meaning to say that the specific company based commercial-in-confidence type electricity pricing information is not on the public record, as it is not for most other big businesses where it is a major part of their competitive edge. I agree with you that there are figures available in broad terms for where Australia stands in the world internationally et cetera. There are some figures in this report that we are doing. There are very big studies done of that sort of thing. If you have got £10,000 to spare, you can buy them and they have a lot of detail. I am not sure how accurate some of it is. But certainly, there are some good indicators. I do not disagree with that. What they show, as I said, is that, for aluminium, Australia is down in the bottom quarter of the cost curve and therefore is pretty competitive, but not the cheapest in the world. In terms of development in Victoria, I agree that the situation at the moment is that you can generate electricity and energy most cheaply from brown coal—there is no question about that.

Mr ZAHRA—Yes, it is a great product.

Mr Coutts—It has basically no other use except generating energy and it does that. There is a little problem—and that is that it releases a lot of CO₂. Where that is going to end up yet is not quite clear. As far as the aluminium industry goes, I think developments of the kind you are talking about in the Latrobe Valley make a lot of sense. I know there is some thought going on regarding aluminium amongst other things down there. I think the aluminium industry in general terms is very interested in those sorts of developments,

including, as I said, a hot metal to die-casting operation in an energy park context. The dynamics are perfect for that in Victoria. The only fly in the ointment is what is going to happen on energy costs through greenhouse.

Mr ZAHRA—Finally, we have had witnesses to this inquiry previously from one of the government departments—I cannot remember exactly which one now. I asked them a series of questions about whether or not our energy advantage is being marketed internationally. Beyond that, I talked about the additional energy advantage which places like the Latrobe Valley and, I assume, Newcastle and perhaps Gladstone, as well, would be able to offer. To your knowledge, has there been any marketing of this additional advantage which Australia has, in order to attract new development? The realities of globalisation are that companies are looking for the best place around the world to place their substantial new investment. If we have got an additional advantage, I want to know whether or not we are marketing it. My belief is that we are not.

As an aside, Mr Chairman, I would point out that the department did undertake to get back to me with regard to those documents they said they had on that. To this point, which is six, seven or eight weeks since then, they have not. So could you advise whether or not you know that?

CHAIR—That has been duly noted.

Mr Coutts—The only thing I would say in answer to that is that you are quite right; there is some of that going on. I believe it is not probably quite as coordinated as it might be. There has been some effort by the government to promote the automotive sector as an investment in that way.

Mr ZAHRA—But it sells short our additional advantage. It sells short our opportunities to get those new investments here.

Mr Coutts—Yes. The aluminium industry is looking at new investments, and the problem is the uncertainty about where greenhouse is going. If that was not there, I think you would have new investments very quickly.

CHAIR—We will have to suspend the hearing again. Thank you, Mr Coutts. I am sorry we have been interrupted a couple of times. Certainly, your evidence has been very useful.

Mr Coutts—I will send in that written information.

CHAIR—Yes, and anything further you would like to add. Thank you.

Proceedings suspended from 12.47 p.m. to 12.59 p.m.

BATTY, Mr Neil Geoffrey, Director, Market Information and Analysis Unit, Trade Development Branch, Market Development Division, Department of Foreign Affairs and Trade

CARNEY, Mr Michael, Director, WTO Industrials and Market Access Section, Trade Negotiations Division, Department of Foreign Affairs and Trade

HYNDES, Mr Matthew, Executive Officer, Trade and Economic Analysis Branch, Department of Foreign Affairs and Trade

MUGLISTON, Mr Michael Anthony, Assistant Secretary, Trade and Economic Analysis Branch, Department of Foreign Affairs and Trade

RAPER, Ms Catherine, Executive Officer, Climate Change Section, Department of Foreign Affairs and Trade

CHAIR—I reopen the public hearing and welcome you, ladies and gentlemen, from DFAT. We will have to close off this public hearing at 1.30 p.m. Obviously, if there are more questions or more information that needs to be given to the committee, I am sure that we can arrange to have you come back at some other time. There have been a couple of divisions but we have to attend to one other matter. We also have to be out of this room at that time.

I remind you that the proceedings here today are legal proceedings of the parliament and warrant the same respect as the proceedings in the House. The deliberate misleading of the committee may be regarded as a contempt of parliament. The committee prefers that all evidence be given in public. But should you wish at any stage to give evidence in private, please ask to do so and the committee will consider your request. Do you have an opening statement that you would like to give to the committee?

Mr Mugliston—On behalf of the Department of Foreign Affairs and Trade, I wish to note our interest in assisting the committee's work in addressing relevant terms of reference for your inquiry into increasing value adding to Australia's raw materials. Our submission is divided into four parts. Firstly, it outlines Australia's trade profile and addresses the current state of value adding in terms of Australia's raw material exports. It then provides an international comparison of Australia's performance in value added exports. It then addresses some of the factors affecting further processing in Australia which are relevant from our portfolio perspective and then, finally, strategies for increasing value adding activities in Australia.

The submission notes Australia's improved performance in value added exports. Key issues highlighted are that over the last 15 years exports have increased significantly and the degree of processing which Australian exports undergo has also been steadily increasing. For example, the share of unprocessed materials exported by Australian firms has declined from 48 per cent to 39 per cent of total merchandise exports during the period 1987-88 to 1998-99.

International trade liberalisation and domestic microeconomic reform have been important factors driving the diversification of Australia's export mix and our ability to develop competitive advantage in particular sectors. In looking at these issues our submission concentrated on examples in processed minerals products. For example, the Uruguay Round secured market access gains for processed mineral exports by winding back tariffs in key markets. As noted in our submission, the round achieved tariff reductions averaging 38 per cent on natural resource based products. This included tariff reductions of 32 per cent for aluminium, 43 per cent for copper and 70 per cent for zinc. This meant lower barriers for Australian value added raw materials seeking to enter new markets.

However, barriers still remain. A particular issue of concern relates to tariff escalation—that is, where tariffs are set at progressively higher levels on value added products. This remains an impediment to increasing exports of processed primary products, including processed food, in a number of overseas markets.

The department is involved in a number of activities to advance Australia's interests in opening up further markets to processed raw materials. On the bilateral front these activities include regular meetings of the Market Development Task Force, which coordinates the activity of the department, Austrade and the departments of industry, science and resources and agriculture, fisheries and forestry in focusing on high priority short-term opportunities in 27 markets.

On the multilateral front Australia is active in arguing the need for the successful launch of a new round of WTO negotiations to include negotiations to liberalise trade further on industrial goods as well as on agriculture and services. Difficult negotiations are currently under way in Geneva on the mandate for the agricultural negotiations. Australia is seeking to ensure that the negotiations result in trade in agriculture—including processed agricultural products—taking place on the same basis as trade in other goods, including the elimination of export subsidies, substantial cuts in trade distorting domestic support and substantial improvements in market access.

Finally, I would just like to use this opportunity to correct one piece of information contained on page 19 of our submission. Since this submission was forwarded to the inquiry secretariat in September we have learned that the An Feng Kingstream steel project to be located near Geraldton in Western Australia has undergone some restructuring following the withdrawal of the Taiwanese investor. We understand, however, that the Kingstream steel proposal is still continuing to develop, with investment sourced from elsewhere.

CHAIR—Thank you very much. Because of our limited time frame, if members would just put key questions to the witnesses today, that would be appreciated. If there are any questions that we do not have a chance to ask, we could put them on notice and I am sure the department would be happy to provide answers. I am happy to defer to the deputy chair on this.

Mr ALLAN MORRIS—I will hold back. I have had a few questions, and some of the others want to ask some.

Mr HATTON—Mr Carney, more than 10 years ago—I think it was 12—one of the helicopter companies in my electorate was producing something that was not available in the United States: they added to the bottom of helicopters a pod with a big searchlight on it. They were entering into contracts with lifeguard associations right along the west coast of the United States. In the end they could not produce those in Australia. Nothing that we could do could get them access to the United States' market, which talks free trade but builds in barriers and impediments wherever they can. The only way they were able to enter that market was to sell their invention to a United States company to produce it in the United States and then have that sold up and down the country. The Americans had not done the work in this area. They developed an adaptation of the Bell helicopters that they were using. Even with the push of all of our departmental people, those barriers were very strong.

What is the general situation now and what hope is there in this next WTO round in the industrial area that we might be able to steal a bit of a march where the doors have been locked closed very harshly? The major way in which they did it was to use the approval process for aircraft in the United States. Although we accepted their approvals and we allowed in aircraft and modifications that were approved by their processes, they would not allow it on the other end. Basically, it was going to be a five- to seven-year process. In the end, somebody would have just knocked off the invention and produced it there anyway.

Mr Carney—I will answer that specific case first and then come back to your broader question about the ambitions of the United States for a new round and where we want them to be. The issue of standards certainly is now very current. Clearly, the company in your electorate was well up on the technology. In high technology areas we are finding that standards or technical barriers are becoming the most used form of putting an impediment in the way of exports and making exactly that situation that you have described occur. So the employment effect is, in fact, in the other country, rather than in your own.

There is already an agreement in the WTO on technical barriers to trade, and we are looking to have that beefed up in such a way as to ensure that standards are not used in this way. The whole objective of the agreement is to ensure that standards are not used to restrict trade but, rather, to support basic health and safety and to prevent deceptive practices. That is the objective of them. But we know that they are certainly being undermined, as you say, through approvals processes. Another issue we are trying to get at is custom formalities and other procedures. We are trying to streamline all of those. Again, there are provisions in the WTO. It is just making sure that all these issues are taken up and effectiveness applied.

Australian exporters still do have problems in these areas. We are trying to develop structures in the department—I look after a non-tariff measures database—where we try to prosecute these exercises when we can. It is a matter of encouraging exporters to come and tell us as soon as they have these difficulties. But I will forget the advertisement and move on to the United States and the new round.

Mr HATTON—I just interpose that the local member then was the Treasurer. Even with his best efforts and using departmental efforts we could not overcome their barriers, because they were so effective.

Mr Carney—The United States plays a very hard game. The same sorts of rules have been applied in the preparations for this round as well. As far as we know, at the moment we have all the APEC membership on side for industrials—and from my point of view, that is the main interest of the committee—to have a round of negotiations which should deliver tariff reductions. We are looking for tariff reductions on industrial products. We are also trying to work out mechanisms that will address non-tariff barriers directly associated with these products. Non-tariff measures are product specific at the moment.

The WTO has a separate set of rules relating to technical barriers to trade—anti-dumping, import licensing and Customs valuation. Those sorts of issues take a long time to negotiate. What we are trying to do in this round—and this is from an Australian perspective—is target specific sectors, find the non-tariff measures and make sure that non-tariff measures are not put in place to offset whatever advantage you might get from tariff reductions. So we are looking at that.

At that level the United States has been pretty supportive of that sort of idea. At the much higher political level of the trade-offs between what we get in agriculture with what we get in industrials and services they are looking across the whole agenda. They have their interests, and they are pursuing those. It is not just with us; it is also with the EU. It is a very difficult stage of the process, which starts next Monday. It is difficult for me at the moment to suggest exactly where it might end up. But certainly underneath it all, at the back of its processes, the United States always has a free trade outlook. It is getting there and making them bring it to the surface that is often the more difficult task.

Dr WASHER—Ms Raper, what has been expressed here today and at other times when we have discussed this is the low energy cost advantage that Australia has. Can you tell me whether we are going to maintain that in the future under our Kyoto agreement plus carbon credit possibilities and with increasing energy consumption?

Ms Raper—The first point to note is that our emissions target under the Kyoto protocol was negotiated to take into account our national circumstances, which includes our resource base, our specialisation in energy intensive goods and our trade profile. A lot of that was taken into account in giving us our target of plus eight per cent over 1990 emission levels by 2008-12 in the protocol. While that is still a very demanding task, it was quite a fair outcome, given the negotiations that were in place. It represents equality of effort across all of the countries that have undertaken targets. Everyone is reducing their emissions by about 30 percentage points off business as usual.

That said, we are looking to implement the protocol in the most cost-effective manner possible. One of the key ways to do that is through the so-called Kyoto flexibility mechanisms that are built into the protocol. They include international emissions trading and also opportunities to invest in projects in other countries, gain greenhouse credits and bring them back to Australia to allow our energy intensive industries to expand. We are actively involved in those negotiations. Together with a group of other like-minded countries we are aiming to get in these negotiations the most cost-effective market based and efficient bureaucratic and institutionalised mechanisms. Decisions on these issues are due to be taken by the end of next year—in late November 2000—when a big conference is happening.

Dr WASHER—Could you give me a couple of examples of what we would do to do that in other countries? Are we planting trees?

CHAIR—How do we actually gain those credits?

Ms Raper—There are basically two types. Some of the projects will involve energy removal—that is, introducing new technologies or new ways of doing things that will help reduce emission levels. The other side is what is called the promotion of carbon sinks—that is, the promotion of forestry or land use change in forestry activities that will help soak up, remove or store carbon and thereby lead to a lowering of the amount of greenhouse gas emissions in the atmosphere.

Of the two project based mechanisms I referred to, joint implementation is when it happens between two countries who both have targets—for example, Australia and Japan—whereas the clean development mechanism is about projects in developing countries who do not have targets and which enables new credits to enter the system. Because they do not have existing targets, these projects can be implemented and can lead to increased credits which can enter the international market. We are arguing for the credits between the three to be completely fungible—or interchangeable—so that they can then be traded in the international emissions trading system.

Dr WASHER—I gather that means that we would build low energy utilisation power houses in their countries?

Ms Raper—For example, we might go to another country and do a coal to gas conversion program or introduce an energy efficient saving in the way they produce electricity or refrigeration and those sorts of things. It could also involve investment in plantation forestry that might soak up carbon in the atmosphere.

Dr WASHER—I am sorry to labour this one but it is a big problem. Has that been proven to work? Long-term forestry produces CO₂. Has there been research to establish in reality that project is a carbon trapper?

Ms Raper—The negotiations are ongoing on how to precisely define what activities will count as sink activities. My understanding is that it has been proven that trees, while growing, do sequester carbon from the atmosphere and store it there. But I am not the expert on this aspect of the forestry sector: that responsibility is with the Australian Greenhouse Office so you might have to get that expert advice from there.

Dr WASHER—If I could ask you about the trade in intellectual property, how are we progressing in that? It is a growing industry in Australia. Are we getting reasonable protection for it? Do we have greater difficulties in doing that than we have with the protection of other industries and with protection in the marketplace internationally?

Mr Mugliston—No. I think a major achievement, in fact, was in the GATT Uruguay Round in 1994 when it concluded by getting an agreement on the trade related aspects of intellectual property rights. That was one of the agreements of the WTO that is enshrined in the WTO. What that provides is not only the standards that people agree to but also the

enforcement mechanisms in terms of countries agreeing to be bound to those provisions within the WTO context. That represents a major advancement. At the same time, we still have other intellectual property negotiations under way in other relevant fora. That represents a significant strengthening in the protection of intellectual property rights.

Mr ZAHRA—My questions are probably directed to Ms Raper as well. They relate to the Kyoto protocol and to greenhouse issues. I had a meeting with someone from the power industry about two weeks ago and they told me that there was a United Nations intergovernmental report which had just come out, or was coming out, which basically said that planting trees does not work to fix up problems with carbon emissions.

I think it is pretty important to determine whether or not this is right, because it fundamentally affects a whole heap of the strategies in place that try to deal with the significant commitment we have to meet that protocol. Everyone wants to put it off and put it to the back of their minds but it is coming and it is going to be a very big deal to regions such as the electorate that I represent. I am concerned about the way in which we have gone about doing this.

I think everyone agrees there is bipartisan support for fewer emissions and a better result for the environment. What I am concerned about is excluding developing nations from this requirement. With industries in developed nations—including Australian industries such as the pulp and paper ones in my electorate, which are the backbone of employment—you apply to them this additional cost impost, but you do not do so with industries in places like Indonesia.

Anyone who understands anything about pulp and paper internationally knows that a major competitor to Australia is Indonesia, and yet it does not have that impost. We talk about the realities of globalisation around this place, and I am sure you guys do in your department, but the realities are that you can pick up investment from anywhere around the world and we have large multinational companies that are capable of doing that.

I am worried that the way that we have gone about it—maybe on the best basis of decision making to get a good result for the environment—may well result in a significantly detrimental impact on local industries. If we pursue things like carbon sinks without necessarily having detailed knowledge that they work, then surely we are entering into a folly which jeopardises thousands of jobs.

Mr Mugliston—The second issue that you raised—on carbon leakage—has been a longstanding concern of Australia and, in fact, it was an issue that we were able to articulate very clearly during the course of the negotiations that led up to the Kyoto protocol in Kyoto at the end of 1997. If you wish, I can table the document that was prepared in preparation for those Kyoto protocol negotiations. It is an issues paper that outlined the relevant issues involved in the negotiations and why Australia was arguing for a differentiated target.

You will recall that at that time the European Union and others were arguing for a uniform target and that everyone should be bound to this. What this reports reflects is the argumentation that we had to sell internationally, because this is an international negotiation that we were involved in as to why we required a differentiated target. That reflects the

structure of our industry and the sorts of points that you were raising in terms of reliance, actual resources and the fact that we have coal-fired power stations in Australia.

So that issue is there in the report. I think it is fair to say it is an issue that other parties are very conscious of. In fact, the United States has been very vocal in arguing the need for engagement of developing countries in such commitments. This is one of the outstanding issues in the negotiations along with the other flexibility mechanisms and the issue of carbon sinks that you have raised. These are not simple issues, as you would appreciate.

Mr ZAHRA—No, not at all.

Mr Mugliston—They involve a great deal of complexity and a lot of expertise, so you have a very difficult technical negotiation, but you also have a difficult political negotiation.

CHAIR—Mr Mugliston, I am sure the document you have now tabled will be of great use to members of the committee.

Resolved (on motion by **Mr Zahra**):

That the document be accepted as an exhibit to the inquiry.

Ms Raper—I would like to confirm that the issue of developing country engagement continues to be a major one in the negotiations and one that parties are attempting to address. So there is continuing work to address that issue. It is also true to say that decisions on where to locate investment capital are based on other issues besides the cost of energy. We need to keep in mind our skilled labour force, our tax system, our stable system of government and so forth. The cost of energy is just one factor that is taken into account.

Mr ZAHRA—Respectfully, I would have to say that I think it is a big consideration. We have had witnesses at this inquiry who have stated up-front and very clearly that the cost advantage that we presently enjoy is significant in the consideration of new investment and where that investment is going to be located.

In the event that we have an additional impost placed on the provision of electricity, we will start to run into all sorts of problems. It does not take people with enormous intellects to contemplate people running international companies sitting around a table much like this, I would imagine, looking at a world map and factoring in things like the cost of electricity and all sorts of other bottom line considerations.

Whilst I acknowledge that a stable government would be an important consideration as well, we are talking about millions of dollars and there are other countries with stable governments as well who could deliver all the benefits of that without the additional burden of an increased cost of electricity due to commitments a country has made as a result of meeting the Kyoto protocol.

Ms Raper—We are very conscious of the importance of keeping the cost of energy as cost effective as possible. That is why we are putting so much work into the Kyoto

flexibility mechanisms that will, through their operation, keep the price of carbon down under the Kyoto agreement.

Mr ZAHRA—I am not sure how much people actually understand the situation as it relates in Victoria. The privatisation process there has meant that we ended up with a lot of very heavily levered, heavily geared private companies running power stations with massive debt levels. They are not state-run institutions like those in other states which can absorb this additional cost and have a government subsidy provided to them.

It is not like that so, in the event of them being given an additional impost on their operating costs—given that they are carrying heavily debts already—they will feel that significantly. I would hate to see these important employers in regional areas such as mine go under or be forced to contemplate other actions which are going to have a negative impact on my electorate as a result of something we have signed off on but other countries have not, which means that they are going to get a huge advantage and a huge head start on us.

Ms Raper—I might also just quickly address the first part of your question on carbon sinks and their effectiveness and note that there is a special report by the Intergovernmental Panel on Climate Change on this issue—land use, land use change and forestry—that is due to be released in May next year. There is an advance government edition of that report out at the moment.

Mr ZAHRA—I think that was the one to which they referred.

Ms Raper—But that is far from final, and I know that experts are studying that at the moment. I am not able to comment on what conclusions it draws except to say that it will not actually be finalised until May next year. Decisions on what will constitute carbon sinks and how they will work under the protocol are due to be taken in November next year. So the whole issue is far from final and is definitely one that we are factoring into our decision making on this process.

Mr ZAHRA—Is that document a public document?

Ms Raper—My understanding is that there is actually a study happening of it at the ANU today. That leads me to think that it might be a public document, but I can confirm that and get back to you.

Mr ZAHRA—Mr Chairman, I am wondering whether we could ask the inquiry secretariat to provide a copy of that report if it is, in fact, a public document. It has come up time and time again in our deliberations on the challenges which Australia faces in meeting its commitments to the Kyoto protocol. It would be useful for us to have a handle on that.

CHAIR—I am sure we can do that.

Mr ALLAN MORRIS—I wish to place on notice a question that goes back to intellectual property. It goes to the matter of international corporations establishing

intellectual property in Australia in processing technology or whatever and then using it in other countries and, in some cases, against Australia.

The example I can quote you is CRA with Hismelt. Hismelt was a \$150 million project. I think \$150 million worth of public funding went into Hismelt with tax and R&D write-offs and so on. It is not being used and it may end up going into Korea, but CRA owned that property. So the question about TRIPS—the relationship between TRIPS, sovereign intellectual property rights and international organisations' property rights—does not necessarily sit comfortably with some of us. I would be interested if the department could indicate what policies would be needed to ensure that intellectual property development in Australia with Australian funding and so on is actually used in our national interest rather than against our national interest, which it can be currently.

Mr Mugliston—We will take that question on notice.

Mr ALLAN MORRIS—It occurs in a number of possible areas. Pharmacy or technology research done in a pharmaceutical factory under R&D write-offs can, in fact, be produced elsewhere in competition with other Australian technologies. It can happen in the processing of material. It can happen in a number of areas because of the global nature of the organisations that are here and the general nature of our funding schemes. So it is how that fits with TRIPS and how that fits with national interest and national benefit.

Mr HATTON—I wish to follow up the questions by Dr Washer and Mr Zahra on greenhouse and clearing carbon through sinks. We have seen a fevered and inappropriate clearing of forest lands in Queensland, which is as yet unabated and is going in exactly the opposite way to that we need to be going in terms of carbon sinks.

The question I refer to has come up a number of times in the media. It is how carbon sinks can actually operate. As I understand it—and we would like some information before May and November, because we might have finished all of this before then—the proposition is very simply that it is fine that you plant trees, because while they are growing they will incorporate the carbon. But, if you then leave those trees to go through their natural cycle and die off in the forest, they will then release CO₂. So for part of the cycle you will get a carbon sink effect but then you will get a carbon release effect at the end of it.

Secondly, if you are growing those trees and then harvesting them, the manner in which you harvest them will determine whether or not you get the CO₂ effect. So if you are just clearing, as they are in Queensland for pasture land, by ripping those trees out of the ground, you are releasing CO₂ into the atmosphere because you are actually disturbing the ground. Good forestry practice, as we know, does not involve just ripping all the stuff out and having that extra release beyond what is in the trees.

It is important for us to know just exactly where we are with this situation, because the argument is being advanced that it is not really going to work anyway. It links directly to another question: whether in terms of development of carbon sinks we would be better off to look at full forestry use—the state and federal forests and private forests—or whether we need to look at the biomass area, woody plants and so on which could run over a seven- or

eight-year period and then be harvested, possibly without the greenhouse effects that might be involved in the others.

They are important questions that we need to determine, because that one significant article coming out raises a giant question mark about the offsets. This also relates directly to Japan's situation. They want to be involved in forestry and so on. It is no use whacking in a program that in the end, inappropriately managed, will not be of benefit in terms of the greenhouse effect. That is the critical area that we are trying to get at. Those questions should be able to be partially answered in response.

Mr Mugliston—We were involved in the international negotiations on climate change. There are other departments and agencies involved—of course, it is a whole of government process here. I would suggest that that question is probably more appropriately directed to the Australian Greenhouse Office, Mr Chairman. In terms of the domestic implementation aspects, that is a matter that can be pursued there.

Mr HATTON—Sure. I was taking that up, because Ms Raper suggested that they were the appropriate ones. With your contacts, we might be able to do that. We will certainly do it directly. That is significant in that, whatever international approach we take, we had better know internationally what we are actually doing domestically, because all of these things directly interrelate. There is a big question mark now in that whole process.

CHAIR—I am sure that we can arrange to get some further information. I am sure that, if the department has any information that they could provide on that subject, it would be of great use. We are going to have to close this public hearing at this stage, because time has run out. If members do have any questions that they would like to place on notice, I am sure that we could forward them to the department. Should we need to have anyone from the department come back again, I am sure that we can arrange to do that. Did you wish to table something, Mr Mugliston?

Mr Mugliston—If I may. It might be simpler, Mr Chairman, if you do not mind, if we could table these additional documents to save time. First of all, there is a statistical document which gives you a lot more detail than what is provided in our submission on exports of primary and manufactured products in Australia in 1998. We expect to have the 1998-99 publication available in January next year.

Also, there is a departmental publication entitled *The transformation of world trade: changing patterns of global import demand and Australia's response*. That was released last month. There are a couple of other documents that have been released: one in 1997 on trade liberalisation opportunities for Australia and then one released a couple of months ago entitled *Foreign direct investment: the benefits for Australia*.

Resolved (on motion by **Mr Zahra**):

That the documents presented be accepted as exhibits to the inquiry.

Resolved (on motion by **Mr Hatton**):

That this committee authorises publication, including publication on the parliamentary database, of the proof transcript of the evidence given before it at public hearing this day.

CHAIR—I declare this hearing closed and thank you all for your attendance.

Committee adjourned at 1.35 p.m.

