



COMMONWEALTH OF AUSTRALIA

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SENATE

RURAL AND REGIONAL AFFAIRS AND TRANSPORT
REFERENCES COMMITTEE

Reference: Australia's future oil supply and alternative transport fuels

FRIDAY, 18 AUGUST 2006

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SENATE

RURAL AND REGIONAL AFFAIRS AND TRANSPORT REFERENCES COMMITTEE

Friday, 18 August 2006

Members: Senator Siewert (*Chair*), Senator Heffernan (*Deputy Chair*), Senators McEwen, Nash, O'Brien and Sterle

Participating members: Senators Abetz, Adams, Allison, Bartlett, Bernardi, Boswell, Brandis, Bob Brown, George Campbell, Carr, Chapman, Colbeck, Coonan, Crossin, Eggleston, Chris Evans, Faulkner, Ferguson, Ferris, Fielding, Hutchins, Joyce, Lightfoot, Ludwig, Lundy, Ian Macdonald, Sandy Macdonald, Mason, McGauran, McLucas, Milne, Murray, Nettle, Payne, Polley, Robert Ray, Santoro, Stephens, Trood, Watson and Webber

Senators in attendance: Senators Heffernan, Milne, Nash, O'Brien, Siewert and Webber

Terms of reference for the inquiry:

To inquire into and report on:

Australia's future oil supply and alternative transport fuels, with particular reference to:

- a. projections of oil production and demand in Australia and globally and the implications for availability and pricing of transport fuels in Australia;
- b. potential of new sources of oil and alternative transport fuels to meet a significant share of Australia's fuel demands, taking into account technological developments and environmental and economic costs;
- c. flow-on economic and social impacts in Australia from continuing rises in the price of transport fuel and potential reductions in oil supply; and
- d. options for reducing Australia's transport fuel demands.

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Committee met at 9.01 am

GARGETT, Dr David, Research Leader, Bureau of Transport and Regional Economics, Department of Transport and Regional Services

JONES, Mr Stewart, General Manager, Transport Integration and Reform, Department of Transport and Regional Services

MARTIN, Mrs Lyn, Senior Economist, Bureau of Transport and Regional Economics, Department of Transport and Regional Services

MRDAK, Mr Mike, Deputy Secretary, Department of Transport and Regional Services

POTTERTON, Mr Phil, Executive Director, Bureau of Transport and Regional Economics, Department of Transport and Regional Services

ROBERTSON, Mr Peter Andrew, General Manager, Vehicle Safety Standards, Department of Transport and Regional Services

CHAIR (Senator Siewert)—Welcome. I presume that you have appeared before committees before and that you have heard all the things about parliamentary privilege, so hopefully we can skip that. I now invite you to make a brief opening statement, after which we will have questions.

Mr Mrdak—Thank you for the opportunity to appear this morning. The department has four key areas of work which are relevant to the terms of reference of this inquiry. Firstly, through our Bureau of Transport and Regional Economics, we undertake a research function. You may have seen some of the work the BTRE has done in recent years in relation to peak oil supply and the like, and I am joined today by the Executive Director of the Bureau of Transport and Regional Economics, Mr Phil Potterton, and his officers. We have a role in vehicle standards through our vehicle standards area of the department, and I am also joined by Mr Peter Robertson, who heads up the vehicle standards area of the department. We have a role in investment in infrastructure. We implement the government's investment strategy through AusLink, which is the federal government's investment program for land transport infrastructure in Australia. Finally, we have a role in implementing some areas of the government's energy white paper, particularly the energy excise credits regime and the guidelines that apply to access for heavy vehicles to that scheme. We are also involved in a number of COAG initiatives on which we are undertaking work for report back to COAG at the end of this year in relation to fuel efficiency and travel demand behaviour change, as well as a whole range of road and rail reform agendas for COAG. We welcome questions.

Senator O'BRIEN—Could you tell me about the approach taken by the department's vehicle standards area to harmonising with international vehicle standards.

Mr Robertson—It is the government's policy to harmonise with international vehicle standards where possible.

Senator O'BRIEN—What does 'where possible' mean? What is the caveat?

Mr Robertson—You are getting into a technical area. The easiest way to explain that is to say that our vehicle fleet does not differ markedly from that of the rest of the world in normal passenger vehicles and motor cycles, but we do have heavy vehicles that have particular issues because we accept produce from Japan, the United States and Europe as well as home-grown product. They also operate in combination. We have vehicles that are longer than most vehicles that you would find anywhere else in the world. So there are issues with electrical and mechanical connections and there are some considerations that you might apply to vehicles that have to pull very large loads in very hot conditions.

Senator O'BRIEN—I am interested because there has been some issue with the importation of an electric vehicle which the manufacturer tells me is accepted in parts of Europe as a vehicle which they describe as a quadricycle. I believe that a couple of million of these vehicles have been registered in Europe—and on a continuing basis—but the vehicle cannot meet, or has not been tested against, Australia's standards. What is the government's position on accepting a standard for that type of vehicle?

Mr Robertson—When the government considers taking international standards, there are more standards than what you necessarily need to take. It is not so much about a standard here; it is about a category of vehicle. All the regulatory systems around the world divide their vehicles into categories. In our case, there are 19 categories of vehicles that fit under the Australian design rules framework. They would go from pushbikes right through to heavy vehicles, trailers, omnibuses and that sort of thing.

Within the United Nations Economic Commission for Europe framework—which is an international framework—there is a category of vehicle known as the 'heavy vehicle quadricycle'. It is at the option of any of the signatories to the relevant agreement to take that category of vehicle into the legislation, and the relevant regulations would apply to it. The Australian government has not taken that vehicle category into legislation to this point, though it has been proposed. As you would be aware, the state governments control the process of vehicle registration. So, before considering whether to take into legislation such a category, it is necessary to consult with the state and territory governments. The minister has done that—has gone through due process. We have received responses from all of the state and territory governments, and none has supported the creation of the heavy vehicle quadricycle category.

In practice, if one were to do so, it would allow vehicles that are basically light vehicles—however propelled; whether electrical or not—onto the road. So it would include not only vehicles like the REVA electric vehicle, which is the one getting all the publicity, but also vehicles such as quadricycles, ATVs, off-road bikes, vehicles that look very similar to a golf buggy and any number of other vehicles.

Senator O'BRIEN—I understand that there might be some concerns about vehicles that would mix at speed and power wise with the heavier 'normal' motor vehicle, but it is also my understanding that it would be possible to speed limit this lighter category—perhaps to a 60-kilometre or 70-kilometre speed limit—and limit it in weight as well. Is that not possible?

Mr Robertson—To fall within the category there is a weight limit—it has to be a comparatively light vehicle—and have a power option of, I think, no more than 15 kilowatts,

which is not very much. Most of the vehicles we are talking about would rarely exceed 60 kilometres an hour anyway; so the speed limit is self-imposed.

Senator O'BRIEN—The quad bikes would.

Mr Robertson—To fall within the 15-kilowatt bracket, some of the models would certainly need to be constricted.

Senator O'BRIEN—When was this consultation with the states conducted?

Mr Robertson—The minister wrote to each state and territory counterpart in January of this year.

Senator O'BRIEN—What recent work has been conducted by BTRE in relation to fuel needs, fuel consumption and the capacity of our market to supply various fuel types?

Mr Potterton—Our most recent work is in the context of forecasting greenhouse gas emissions, which is work we undertake periodically in the context of international climate change reporting. We project fuel use out to 2020, so we need to make assumptions about difficult projections such as the prevailing oil price and the take-up of different fuels. We have not done a specific in-depth study of the capacities and cost structures of different fuels for some considerable time. I have here a copy of *Alternative Fuels in Australian Transport*, which is the report of an inquiry the bureau conducted in the early 1990s. That is still the most recent report, which looks at each fuel type in great depth. As I say, we do project forward the likely fuel use in the transport sector through to 2020.

Senator O'BRIEN—Where in the department is there a monitoring of the production capacity within Australia for ethanol, for example?

Mr Mrdak—We do not undertake that role in our portfolio. That is a matter for the industry and resources portfolio.

Senator O'BRIEN—Apart from BTRE, what work does this department do on the fuel issue?

Mr Mrdak—No specific work, Senator. In relation to fuel issues, we have a number of areas which are engaged across government. For instance, we are involved through Mr Robertson's area with the Australian design rules in relation to how fuel standards, developed by the Department of the Environment and Heritage, interact with our ADRs and what impact that has on our emission levels and the like requirements. We obviously have a role with Mr Potterton's work in demand forecasting for transport tasking, but apart from that, we do not have a direct role in any of the energy or resources policy settings or research work being undertaken.

Senator O'BRIEN—What work is done within the department or the bureau in relation to the relative fuel efficiency of different land transport modes?

Mr Potterton—As I say, the forward projections that we undertake entail detailed analysis of litres per 100 kilometres for different vehicle types. Certainly our most recent greenhouse gas

emission report, which is available on our website and a copy of which I can provide you with, includes those assumptions.

Senator O'BRIEN—I am sure the committee would appreciate a copy, if they do not already have one, thank you. I am interested particularly in one of the submissions we received from Associate Professor Laird. He had some interesting information about the relative efficiency of rail versus road freight per tonne kilometre. Are you familiar with that evidence? Could you comment on it, if you are?

Mr Potterton—I am certainly familiar with the general issue of the much greater fuel efficiency of rail on a tonne-kilometre or a kilometre basis. As you would well appreciate, that is only one factor in the choice of transport mode—

Senator O'BRIEN—There clearly are others.

Mr Potterton—that shippers, governments and others make.

Senator O'BRIEN—There are other factors—handling issues and those sorts of costs—that come into it. I thought it might be possible to test that evidence and, for example, the impact on the availability of rail track, the slowing of trains, fuel consumption and the need to stop for passing trains because of insufficient track availability. I was wondering whether the BTRE had done any work which might cast that in a different light or affirm it.

Mr Potterton—Nothing actually comes to mind specifically on that issue. We are engaged in a report at the moment examining impacts specifically on the road system of potential mode shift to rail freight. That does not go to a great extent to the issue that you raise. The general issue is the trade-off between infrastructure investment costs and operating cost efficiency for the operator and the need to find the optimal balance between those two.

Senator O'BRIEN—If you have done a study and based it on certain fuel cost projections then the relative value of different modes will change as, for example, the price of fossil fuels increases. That is why I am interested in whether there are some basic studies that you can rely on to use to factor in the new dimensions we are seeing in fuel costs.

Mr Potterton—Certainly, in the next set of projections we do we will need to factor in higher oil price scenarios than we have done before. There is no question.

Senator O'BRIEN—Do you have any modelling you can rely on where you can punch in new numbers and get something expeditiously?

Mr Potterton—Yes.

Senator O'BRIEN—But that has not been done?

Mr Potterton—We are in the process of looking at some immediate work for the Australian Greenhouse Office that will revise the projections that we have at the moment.

Senator O'BRIEN—What measures are being put in place by this department to implement COAG's resolution of 10 February concerning managing urban traffic congestion?

Mr Mrdak—The department is the secretariat for the COAG work on urban congestion. There is a small team within the department which includes some officers seconded from the states who are working with us to undertake a series of research reports essentially into a number of key areas. Firstly, the BTRE are undertaking projections of urban congestion costs, which updates some earlier work we did a few years ago and that is producing a basis for determining the impact, costs and projections of urban congestion in Australia. We are engaging in work in relation to land use planning patterns in Australia and their impacts on urban traffic flow and congestion, based on the AusLink network. We are also undertaking work in relation to traffic management measures that can be undertaken through implementation of things like intelligent transport systems. As well, we are looking at worldwide experience in relation to pricing and other congestion management measures. They are the types of areas in which we are undertaking research. That work will come together to report to COAG in December.

Senator O'BRIEN—So it is on track?

Mr Mrdak—Yes. It is going very well. All jurisdictions are contributing to what will be some valuable research.

Senator O'BRIEN—What work, if any, is the department doing on public transport infrastructure?

Mr Mrdak—Part of the work on urban congestion includes a module of work being undertaken under the direction of the New South Wales government, which is looking at public transport issues as they impact on the AusLink network. That work will form part of the urban congestion work. Additionally, there is a public transport group, which sits under the transport officials—CEOs—group, which is undertaking some work, again, driven largely by New South Wales, on arrangements for public transport. I think New South Wales is undertaking some research work into taxation and other public transport issues which its minister has asked to be undertaken. That work will come forward to transport ministers later this year and, also, I think New South Wales envisages that being part of the work on urban congestion that would go to COAG.

Senator O'BRIEN—What sort of taxation issues are there in relation to public transport?

Mr Mrdak—I think the New South Wales Minister for Transport, Mr Watkins, has publicly talked about issues such as fringe benefits tax treatment of private motor vehicles vis-a-vis public transport users and, as I understand it, he has asked his officials to undertake some research work into that area. But I do not have a good feel at this stage for the full depth of that. We are waiting for some initial work from New South Wales to come forward to the COAG officials.

Senator O'BRIEN—Given that coastal sea freight is conducted without the need to build lengthy infrastructure—yes, port infrastructure but not infrastructure for the carriage of vessels—what work is being undertaken to test the capacity of seagoing freight to meet some of

the freight needs of the country and to deal with some of the issues of infrastructure bottleneck which are land based?

Mr Mrdak—As you are aware, the department is leading work with jurisdictions in relation to corridor strategies across the AusLink network, and one of the decisions of COAG was that that work should include consideration of port projection demands and shipping demands, and that is being undertaken. So, in some of our key corridor studies, down the east coast and also along the east-west route, we are looking at shipping demand projections and the like as part of our examination of total corridors. Of course, we do monitor shipping in terms of our waterline work, which the BTRE does. Principally, our work is being undertaken through our corridor work. That is looking at what the port projection demands are, principally focused on future investment in terms of the road and rail linkages into those ports, but part of that is clearly looking at—and the state governments are clearly bringing to the table—their needs for infrastructure in the port itself.

Senator O'BRIEN—So that is, despite the Treasurer's comments, purely a state issue?

Mr Mrdak—AusLink does not provide for Commonwealth funding of port infrastructure per se. The AusLink program provides the land transport linkages into the ports and the terminal investment. Clearly, investment in port facilities remains a matter for state governments. They are principally the owners or, in some cases, the lessors or the regulators of the port infrastructure. I think the Treasurer's comments were very much focused on the regulatory arrangements around the ports and how they have operated in a number of jurisdictions, but certainly the AusLink investment strategy is focused on the land transport links into and out of the ports.

Senator HEFFERNAN—One of my great curiosities is why we sell off our North West Shelf gas reserves—and I accept it is a commercial decision—to China for, say, 5c a litre. We do not seem to have put any thought into downstreaming that gas, producing some downstream industries and value-adding to it, which in itself would create opportunities for perhaps more take-up domestically. I have just been to Trinidad and they have a huge amount of downstream industry—trains and trains of production line—and we seem to be happy just to hand the downstream industry to someone else. Wouldn't it present Australia with a great opportunity, wouldn't it redesign our transport thinking and make a bit of sense if we had, for instance—and we in Australia are entirely dependent on a world cartel for chemicals and fertilisers—a fertiliser plant downstream from the North West Shelf onshore and a whole range of associated industries? Maybe that would add some viability, if it is not viable now, to Australia using more of its own gas in order to give consideration to its own transport task.

Mr Mrdak—Certainly, the availability of natural resources like that provides us with an opportunity, but in our portfolio we have not done any work in relation to those issues. They are issues for the resources portfolio rather than ours. We have not, in our portfolio, undertaken any work on those downstream processing or transport issues in relation to LNG or other areas.

Senator HEFFERNAN—Would it be something that would move across the boundaries, if you sowed the little seed wherever you think it ought to be done? We just seem to be ignoring the opportunities.

Mr Mrdak—I am not familiar with it.

Senator HEFFERNAN—Can you sow the seed?

Mr Mrdak—Certainly.

Senator WEBBER—There is a facility called Burrup Fertilisers which is downstream from the North West Shelf.

Senator MILNE—I return to the issue of the REVA electric car. I want to follow on from Senator O'Brien's questions. Mr Robertson, you indicated earlier that the matter went to the state governments in January 2006. I am aware that a couple of state governments were very predisposed to the vehicle and came away from the meeting opposed to it. Did the Commonwealth give any advice to the states in that meeting, either written or verbal, about the safety or acceptability of the vehicle?

Mr Robertson—Senator, I am not sure which meeting you are referring to. The minister wrote to his state counterparts and they responded in writing.

Senator MILNE—Wasn't it raised at a COAG transport meeting?

Mr Robertson—I am not aware of it having been raised at a COAG meeting.

Senator MILNE—Has the Commonwealth provided any advice to the states about the safety of the vehicle?

Mr Robertson—When the minister wrote to the states, the minister outlined the requirements for standards that passenger vehicles would need to meet and simply asked whether the states would be prepared to allow an additional category of vehicle that would be able to meet lesser safety standards.

Senator MILNE—When you say 'lesser safety standards', was it pointed out that the safety standards have already been assessed in terms of letting those vehicles on the road in Europe, Japan and the UK?

Mr Robertson—I believe the correspondence indicated that the vehicles were available for use on roads in the UK.

Senator MILNE—Was there any reference to the fact that we have mutual recognition of standards?

Mr Robertson—That is not a mutual recognition issue, Senator. As I explained before, the standards are an international category that covers standards within them, and the issue for consideration was simply whether the Australian government would adopt that categorisation within domestic legislation.

Senator MILNE—Has the Commonwealth or your department given any advice in relation to accepting that category?

Mr Robertson—The minister's letter simply asked whether they would be prepared to, and pointed out some of the issues associated with vehicles that are of a very light weight and low power.

Senator MILNE—What were some of the issues that were pointed out to the states by the Commonwealth?

Mr Robertson—You do not have to point out too much, Senator, because they are pretty self-evident. The vehicles are low powered, travel at low speed and are lighter than a normal passenger vehicle. The issue really is whether the states and territories would be prepared to accept those vehicles for registration.

Senator MILNE—In terms of your other reference to golf buggies and the like, can you explain to me why there aren't golf buggies on the streets of London when there are REVA cars on the streets of London, if the danger is that if you register this category that is what will occur?

Mr Robertson—No, Senator, I can't explain. I am not aware of whether there are any vehicles of that nature on the streets of London. All I can say is that the states and territories do get regular requests, as I understand it, from people who do have such vehicles to use them on public roads occasionally—for example, if they are in a gated community and want to run down to the local shops, or something like that. Generally, those requests are resisted.

Senator MILNE—I think you can understand my concern here that there is a vast difference between the REVA car and a golf buggy in a whole lot of the features of the vehicles and safety standards. In the UK, Japan and Europe they register these vehicles and this category exists. They are on the road and yet they are being actively blocked here in Australia. I am trying to understand why that is occurring. Would you be prepared to table for this committee the advice in the letters that have gone to the states in relation to this vehicle, please?

Mr Mrdak—We will take that up with the minister. It is a letter from the minister. We will need to seek his views as to whether he is prepared to have his correspondence tabled.

Senator MILNE—Would you also table any advice that your department has given to the states in relation to this matter? Can I also ask whether any correspondence has gone from your department by email or by letter to people, engineers and so on, who might be assessing the vehicle advising them not to proceed? Is that the case?

Mr Robertson—I am not aware of any email traffic or any other advice that tells people not to proceed.

Senator MILNE—Have you given any advice at all to anyone about whether or not this vehicle should go on the road?

Mr Robertson—My role is not to say whether or not the vehicle should go on the road. My role is to manage process, as is the minister's. The issue before the minister was whether this category of vehicle should be accepted within Australian government legislation. He consulted his state and territory colleagues on whether they would support that, given that they would have to register the vehicle. Clearly, there is not much point creating a category that would facilitate

the compliance of vehicles if they are not going to be registered. The responses were not supportive. That is simply what the process came down to.

Mr Mrdak—We will certainly take on notice providing copies of the minister's letters to the states and any advice we have provided to the states. We will seek the minister's views. I think the important point, as Mr Robertson is highlighting, is that these vehicles do not meet the existing Australian design rule categories because they do not meet particularly the frontal and side protection safety requirements of the ADRs. So they do need a separate category to be created. To this point the jurisdictions who register the vehicles have not been prepared to create that category for a lot of the reasons Senator O'Brien was asking about in relation to protection, speed and traffic mix and how they would operate. That is the view of the jurisdictions. At the end of the day in our federal system that is where the responsibility for registration and access to the road system lies.

Senator MILNE—Yes, I understand that perfectly but it has never been my impression that the UK government, the governments of Europe or the government of Japan accept lower safety standards for vehicles on their roads. They have created a category. They have created regulations around that category for where the vehicles can be used and how. I am simply asking: is it beyond the wit of Australian governments to do the same?

Mr Mrdak—I think the essence, as we have been explaining, is that, in accepting those categories, those governments have obviously accepted a lower degree of passenger safety in the operation of those vehicles than we and they require in design rules for higher category vehicles. They are important considerations for the Australian government in adopting such an additional category. The adoption of such a category, as Mr Robertson has indicated, in the absence of agreement from the states to register such vehicles would seem to serve no purpose.

Senator MILNE—I accept that. That is why I will wait to see what advice has been given in relation to it. But it strikes me as extraordinary that these vehicles are being given priority access on bus lanes and exemption from congestion tax. They are being given a huge subsidy by the Japanese government for their import into Japan but Australia cannot see its way clear. I will be interested to see the correspondence and that will not be the last we will hear of that.

Mr Mrdak—Certainly. Obviously those governments are making judgements in relation to how those vehicles fit within their traffic patterns and traffic flow and with the degree of safety requirements they are prepared to accept.

Senator MILNE—Precisely.

Mr Mrdak—Australian jurisdictions may well—and quite rightly—take a different view in relation to our community's expectations of safety and traffic flow for these vehicles.

Senator MILNE—I would also be interested in the advice you have in relation to the number of accidents those vehicles have had where they have been registered. I would be very interested in knowing the basis of the claims on safety. I do not know how many of them have been involved in accidents in London, Tokyo and the like, but I would be very interested to know.

Mr Mrdak—We will take that on notice, but I am not aware that the department would have too much information on that.

Senator MILNE—Thank you. I was out of the room for a few moments and if this was pursued then I will withdraw, but I want to go back to the assumption about future oil price in considering transport infrastructure. You will remember I asked you about this last year in estimates in relation to AusLink planning.

Mr Mrdak—Yes.

Senator MILNE—Your response at that time was that you took advice from ABARE in relation to a \$30 to \$40 oil price into the future as the basis for your transport infrastructure plans. Is that still the case, or have you revised the assumptions on which you are planning all future infrastructure in terms of the long-term oil price?

Mr Mrdak—We keep this matter under review. Mr Potterton may wish to give you a bit more detail, but certainly, as Mr Potterton outlined earlier, we are reviewing our transport projections as part of our work on AusLink for the whole national network.

Mr Potterton—The work I referred to earlier that we undertook for the Australian Greenhouse Office last year used an assumption which was in fact really our own reading of the international forecasts that are out there, in particular by the United States Energy Information Administration, and at that time the longer term forecasts were in the vicinity of \$US32 to \$US40. So our forecasts in the report that we have published essentially use an estimate of around \$US37. Obviously we have significantly higher prices than that at this point in time. As I mentioned in response to Senator O'Brien, the Greenhouse Office has asked us to look at some different price assumptions that have prices of around that level but also of higher values.

Senator MILNE—Given that transport planning is a long-term thing, recommendations you make today about transport corridors are going to play out for the next 20 or 30 years. If you change your assumptions about the viability of rail versus road, if that comes out of a changed assumption about the future price of oil, what is the process for stopping that planning and reviewing that planning into the future?

Mr Mrdak—Certainly the projections and demand analysis which Mr Potterton and the BTRE are doing will feed into the corridor strategy work which is currently under way. Those corridor strategies will look at demand projections and capacity for infrastructure and the like. That will inform both Commonwealth and state governments in relation to future investment.

The issue of modal shift, though, is more complex than simply fuel prices. As we all know, the issue of road-rail contestability is one really in many ways around the reliability and the timeliness of rail and the intermodal costs involved. In the coming months the government will be publishing the north-south rail corridor strategy that we have just completed. That has required quite a bit of demand analysis in relation to the east coast Melbourne-Brisbane corridor. That will highlight again the market's view that the real issue in rail is not so much price, although that is an issue; it is really about reliability of the rail track system. That reaffirms the investment decisions the Australian government has been making in the last two to three years through the Australian Rail Track Corporation.

The real issue is getting rail transit times and reliability to a level where the market has confidence in putting more capacity into rail. Price is a lesser issue, it appears, from our analysis on rail than that issue of infrastructure reliability. That is clearly where the government has been targeting its investment. So the process will be the corridor strategies, which are now being developed, and they will then inform governments. The aim is that this will inform all jurisdictions in relation to future investments along those national corridors.

Senator MILNE—On this issue of oil prices and future prices, and in particular the demand-side management, is it the view of the department that demand management measures are an appropriate response to the possibility that the price of oil will remain high or go even higher? What initiatives are the Commonwealth putting in place to reduce demand for fuel per person or at least reduce growth?

Mr Mrdak—The price of fuel itself operates as a demand management measure. The price changes that have been taking place over the last six months have been sending signals into the market. People are making judgements about fuel efficiency, the use of public transport and the like. So the market signals are operating now through the changes in fuel price over the last six to eight months. On demand management measures, as I outlined to Senator O'Brien, the work we are doing with the jurisdictions on urban congestion issues will include an analysis of Australian and international experience of demand management; not just pricing but also looking at technology such as road design. As you know, one of the key issues is how we enable traffic flow in our major cities and how we allow access onto the major network connections. There is also technology. We think intelligent transport systems can play a major role in how we manage better, through traffic signalling and consumer information. So those types of things are all being picked up in the report we are doing for COAG towards the end of this year.

Senator MILNE—Further to that, though, there are some places in Australia where people do not have an option—the market does not operate in terms of price signals because there is no option for public transport. That has seriously been the advice of the councils of Western Sydney. The problem they have is that the poorest people live furthest from the centre of the city, drive the oldest vehicles which are the heaviest fuel users, and do not have access to public transport. That is why I come back to this issue of reducing the number of vehicles on the road, as opposed to just saying to the market, 'If the price goes high people will get fuel efficient vehicles and we have to design our cities for more cars.' That is the question I am asking you: where is the assessment of the investment in public transport to reduce the number of vehicles on the road and improve life in the city?

Mr Mrdak—I would hope that state governments, who have responsibility for public transport in those urban areas, are taking action to review their own public transport planning and operations. I am aware of anecdotal evidence—and I think there has been some media reporting—that there has been an increase in public transport patronage as fuel prices have risen in our major cities, and that obviously has major benefits. But, as you say, the public transport networks in many of our major cities only really link a relatively small proportion of the population. I would hope that state governments are looking at these issues and at the extension of public transport linkages for those areas, but that is not an issue for the Commonwealth government.

Senator MILNE—Do you think that is a problem; that the Commonwealth government is looking at providing roads and intelligent transport systems in isolation from planning for public transport and moving large numbers of people around?

Mr Mrdak—No, in the corridor planning work we are doing in some of the urban corridor strategies, clearly the Commonwealth's focus is on the national corridors.

Senator MILNE—Yes, I understand that.

Mr Mrdak—That is where our investment strategy is. We are working with the states in the corridor strategies. The aim of those is to provide a strategic overview and a strategic direction that will have the state land use planning and public transport operations linking into it. As you know, one of the reasons we took the conscious step to build AusLink in the way we have was the disconnect that was taking place between Commonwealth government funding for the national highway system and state and local planning and investment in arterial roads and public transport systems. There was a complete disconnect in a number of cases where states were placing residential and commercial development along the national corridors without proper linkages into the national corridors, recognising that they are the major arterials and major freight flows between our major cities and our major export points.

Senator WEBBER—I have only got one question, and it may be that you are from the wrong agency to answer it. Where in the maze of government do I find the agency that is responsible for the new LPG conversion rebate?

Mr Mrdak—It is in the Department of Industry, Tourism and Resources.

Senator WEBBER—Senator O'Brien was right. I am from Western Australia, where we have always had the rebate. The government has just announced theirs and the cost of conversion has already gone up, which is an interesting thing.

Senator MILNE—I want to ask whether you have made a judgement about reducing fuel usage and whether making vehicle fuel efficiency standards mandatory or increasing the excise is the most effective strategy?

Mr Mrdak—They are matters of government policy.

Senator MILNE—Have you developed any analysis to provide government with the basis on which to make that judgement?

Mr Mrdak—Issues in relation to energy usage are not matters for this portfolio. Our role is solely through the ADRs. We have guidelines in the ADRs in relation to targets for fuel efficiency, but that is really where our role ends.

Mr Jones—There are a couple of elements of work streams which touch on some of these that were part of the work that COAG identified in its communique from the February meeting. It is work that will evolve and will emerge among the working groups and be put before the ministerial councils over the course of the next six months or so. They relate to some joint work done by the Environment Protection and Heritage Council and the Australian Transport Council.

Some streams touch on those issues. They have asked for consideration of options around fuel efficiency issues—the sorts of things you have touched on there—and also a separate stream that relates to some of the travel demand management issues is being developed. We have not actually seen any of that work, but working groups are progressing material for presentation to COAG by the end of the year.

CHAIR—There being no further questions, thank you very much.

Mr Potterton—I would be pleased to table the reports that have come up in discussion this morning.

CHAIR—That is much appreciated; thank you.

Proceedings suspended from 9.47 am to 10.02 am

COLMER, Mr Patrick, General Manager, Indirect Tax Division, Department of the Treasury

HAWKINS, Mr John, Manager, Commodities, External and Business Unit, Domestic Economy Division, Department of the Treasury

JACOBS, Mr Martin, Manager, Individuals Non-Business Unit, Individuals and Exempt Tax Division, Department of the Treasury

KENNEDY, Dr Steven, General Manager, Domestic Economy Division, Department of the Treasury

O'CONNOR Mr Mark, General Manager, Individuals and Exempt Tax Division, Department of the Treasury

CHAIR—I welcome the representatives from Treasury. I am certain that you have appeared before committees before and that you have heard all the things about parliamentary privilege, so we can skip that. I now invite you to make a brief opening statement, after which we will have questions.

Mr Colmer—We do not have an opening statement; we are here to answer any questions that the committee might have. We are not quite sure where the committee wants to go, so we are in your hands.

Senator HEFFERNAN—It all sounds pretty scary to me!

CHAIR—You will survive. Does that mean you want to go first?

Senator HEFFERNAN—No. It is un-Australian not to minimise your tax; I do not want to have too much to do with the tax department!

Senator O'BRIEN—What can you tell us about tax collections from the various vehicle fuel inputs?

Mr Colmer—I am not quite sure what you are after, Senator.

Senator O'BRIEN—I know it is a broad question; I am sure you can make a start on it.

Mr Colmer—It is a very broad question. The excise collects around \$13 billion a year. That comes essentially from petrol and diesel. We do collect from ethanol and biodiesel but they are essentially exempted at the moment, so there is no effective collection from those fuels at the present time.

Senator O'BRIEN—So we can chalk that up as nil.

Mr Colmer—Essentially. The way the system works is that while both biodiesel and ethanol pay a nominal excise, in the case of ethanol it is refunded by a grant from the department of industry. That fully offsets the tax paid. In the case of biodiesel, there is a slightly different mechanism used, but the fundamental result is the same: all the excise is refunded. Those fuels do not pay any effective tax until 2011.

Senator NASH—Can we be provided with the amount of excise that is paid? You are right, it is effectively not there. But it is not nominal; it is 38.143c.

Mr Colmer—It is 38.143, but—

Senator NASH—Yes, so it is not nominal.

Mr Colmer—That is the tax that is paid, but that is—

Senator NASH—That is right, but what I am asking is: could the committee be provided with how much tax has been paid on ethanol over the last financial year?

Mr Colmer—I do not have that with me, but I can certainly get that for you.

Senator NASH—I understand that, but if we could—

Senator HEFFERNAN—Has money changed hands even though it is not paid?

Mr Colmer—In the case of biodiesel, that is a question for the tax office. Usually it is offset so there is no actual money changing hands, but it does depend on how that fuel gets into the market. But in the biodiesel case, essentially it is offset.

Senator HEFFERNAN—Obviously with the price of fuel now, cash flow for a fuel agent is a serious problem. If you take fuel out to a cocky's farm and wait two months for the cocky to pay you, like you would have to wait for me, you are actually financing the Commonwealth. I guess that is a big problem.

Mr Colmer—I think you are referring to something else there, Senator Heffernan.

Senator HEFFERNAN—That is why I asked does money change hands. I realise it is something else.

Mr Colmer—As I said, my understanding is that by and large the tax office offsets the liability on biodiesel, but I would not like to say it is 100 per cent the case. Because ethanol is done under a different arrangement, there would be money changing hands as I understand it, but perhaps the department of industry can provide more detail about how they administer that arrangement.

Senator NASH—But it would not be very difficult for you to come up with the excise on ethanol over the last financial year.

Mr Colmer—No, we can certainly find that.

Senator NASH—So the committee would be able to have that fairly quickly?

Mr Colmer—Yes.

Senator O'BRIEN—I presume you would be able to give us an indication of the collections by fuel type and where there has been an offsetting, the revenue forgone by that offsetting by fuel type.

Mr Colmer—Yes, that should be easily obtained.

Senator NASH—Can you break it into two halves, the second half of last year and then the first half of this year?

Mr Colmer—Okay.

Senator O'BRIEN—Could you give us the detail of how that \$13 billion is expended? The trucking industry made statements about how much is collected versus how much is put into roads. The motoring clubs made the same statements. Could you give us an indication of how much of that \$13 billion find its way back into the transport system and how much does not?

Mr Colmer—That really is a question for the department of transport, because the excise is paid into consolidated revenue. Transport funding is something that comes out of the budget through the department of transport. There is no hypothecation at all.

Senator O'BRIEN—So we would be able to see those figures by Commonwealth road expenditure, would we?

Mr Colmer—You would need to get those from the department of transport, but I am sure they would be available.

Senator O'BRIEN—Do you agree with the ABARE March forecast that the crude oil price per barrel in real terms will be dropping from \$US59 in 2006 to \$US44 nominal in 2010?

Dr Kennedy—We use the oil price forecast in our budget forecast and in MYEFO; however, we do not forecast the oil price, nor do we take ABARE's forecast of the oil price or projections of oil prices. We simply take a technical assumption, which is based on the oil price futures curve. Of course, we are only looking to forecast around 18 months to two years, depending on which forecast exercise we are looking at. Obviously, we are interested in it as economists, but it is not relevant to us for the budget forecast. It is a longstanding practice in the budget to take technical assumptions around exchange rates, assume no policy change on interest rates and take an oil price assumption guided by the futures curve.

Senator O'BRIEN—You say that it is not relevant in the budget forecast. Doesn't it indirectly have an impact on GST collection?

Mr Colmer—The question about the impact on GST of fuel prices is a very difficult one. The collections of GST generally track gross domestic product rather than price changes of particular goods or services within the overall market.

Senator O'BRIEN—So you do not make any assumptions about collections based on oil prices?

Mr Colmer—Not of GST.

Senator O'BRIEN—What assumptions do you make based on oil prices?

Mr Colmer—There are other matters around the general forecasting of the budget outcome where oil prices might have an impact.

Senator O'BRIEN—Such as?

Mr Colmer—Such as inflation and similar sorts of things that generally might flow through.

Senator O'BRIEN—Your economic outlook in the last budget assumed that world oil prices would remain above \$70 a barrel throughout the forecast period, which is up to 2009-10.

Dr Kennedy—No, 2006-07 is the end of the forecast period. The other years are projections; they are not forecasts. The projection period is essentially where we set the economy at average trend rates. We turn off growth in prices, if you like. Frankly, it is difficult enough forecasting 18 months ahead, let alone three or five years. The most sensible thing we think is to forecast for the period around 18 months to two years; thereafter, we have a projection methodology, which essentially sets all major economic aggregates at trend growth rates. They all feed in in various ways to various revenue collections—be they income tax, withholding tax or GST.

There is a variation in this year's budget, the previous MYEFO and the previous budget on our normal projection methodology where, as a fiscal prudence measure, we are assuming commodity prices, in two steps, fall back towards their levels before their recent increases because the terms of trade are at a record high level. That projection methodology essentially holds the economy at the point at which the forecast period ends, so it would imply that the terms of trade remain at record levels. It did not seem like a prudent assumption, so we detailed that in the budget. We stepped down the non-rural commodity prices over two years.

Senator O'BRIEN—Has Treasury conducted or been involved in any way in a cost-benefit analysis of options for reducing the impact of high petrol prices, including, for example, demand management measures to reduce the long-term oil dependency of the economy?

Mr Colmer—I do not know the full detail of Treasury's involvement. We have an area that has a general interest in fuel and provides advice to the Treasurer, but essentially those sorts of issues would be more in the preserve of the department of industry. Certainly we have been consulted, for example, on the package the Prime Minister announced earlier this week. Our advice is sought from time to time, but the exact nature of Treasury's involvement in that sort of thing is not something I am really able to comment on.

Senator O'BRIEN—Are you telling us that a cost-benefit analysis has been done on this?

Mr Colmer—I am not aware of a cost-benefit analysis, but I would not like to speak definitively on that point.

Senator O'BRIEN—I am happy for you to take it on notice.

Mr Colmer—If there had been a study of that sort, it would probably be in the department of industry.

Senator O'BRIEN—Can you take it one notice just to check?

Mr Colmer—They are coming up next.

Senator O'BRIEN—I can ask them as well. I am asking in relation to Treasury's involvement.

Mr Colmer—I will ask if there is anything that we are aware of, but I am not aware of anything.

Senator O'BRIEN—Let us know whether the Treasury has been involved in or has conducted any cost-benefit analysis of the recent announcement in relation to alternative fuels. If so, what was the outcome of that analysis? I will ask the same question to the department of industry so we have a belt and braces approach. Who did the costing on the expenditure created by the announcement in relation to the various incentives to move to alternative fuels? Was that Treasury or was that the department of industry?

Mr Colmer—Which incentives are you referring to?

Senator O'BRIEN—We are talking about the LPG conversions, the ethanol subsidies to fuel suppliers and—

Mr Colmer—I am not absolutely certain, but the normal course of events is that the Department of Finance and Administration is responsible for costing expenditure items. I expect that they did those costings, presumably in conjunction with the department of industry.

Senator O'BRIEN—How much tax expenditure is created by the concessionary treatment of the car fringe benefits tax?

Mr Jacobs—It is reported in the 2005 tax expenditure statement, which has been published. There are a range of figures in there going out to 2008-09. The tax expenditure for 2006-07 is \$1.1 billion.

Senator O'BRIEN—What does it go up to or down to?

Mr Jacobs—In 2008-09, it is \$1.27 billion.

Senator O'BRIEN—What page is that on?

Mr Jacobs—I do not have that. I have an extract of it.

Senator O'BRIEN—Presumably, if we cannot find it, we can come back to you and get it from you.

Mr Jacobs—Yes.

Senator O'BRIEN—Has any work been done by Treasury in relation to proposals from New South Wales for extension of fringe benefit arrangements to employer funded public transport usage?

Mr Jacobs—No. We are certainly aware of those proposals, but no work has been done.

CHAIR—Why not?

Mr Jacobs—It comes back to the current treatment of employer provided public transport tickets. Where an employer provides a benefit to an employee, if that is for private travel, that would be subject to fringe benefits tax on the basis that if the employee had themselves incurred that expense they would not be entitled to a tax deduction.

Senator O'BRIEN—The *Fuel tax inquiry report* in March 2002 recommended that the government carry out a thorough study of the external costs of fuel use. Has that been done?

Mr Colmer—I do not believe it has. I think the government did not accept the recommendations of the fuel tax inquiry at the time.

Senator O'BRIEN—What is the government's present understanding of the external cost of transport fuel use?

Mr Colmer—I do not know.

Senator O'BRIEN—So a decision has been taken not to investigate that? Is that how I should understand that answer?

Mr Colmer—I am unaware of any investigation of that.

Senator O'BRIEN—Has any work been done on the balance of payments implications of the rising cost of fuel on our vehicle manufacturing sector in terms of a rise in imports of types of vehicles not manufactured here and a decline in the purchase of vehicles manufactured here?

Mr Hawkins—We have noticed, unsurprisingly, in response to the petrol price rise, a shift from larger vehicles towards smaller vehicles. Given that Australian manufacturers make a higher proportion of the larger vehicles and more of the smaller vehicles are imported, we would expect that domestic producers will be losing a bit of market share as a result of this.

Senator O'BRIEN—I guess that is the layman's view as well, but has any work been done on the impact on our balance of payments?

Mr Hawkins—To the extent that it increases imports, it would make the current account worse.

Senator O'BRIEN—So no projection of the trend is being done?

Mr Hawkins—No, we are concerned with macroeconomic aggregates; we do not get down to the detail of individual types of cars.

Senator O'BRIEN—In terms of fuel imports and usage patterns, is any work being done on the impact on our balance of payments of a rising quantity of petrol and other fuels being imported and the declining ability of Australia to be self-sufficient in our own fuel needs?

Mr Hawkins—Australia is a net importer of oil, but we are a net exporter of energy, so to the extent that the rising oil prices are a reflection of a general rise in energy prices then Australia is likely to be a net beneficiary of that.

Dr Kennedy—To some extent that is reflected in the record terms of trade that I mentioned before. The price of our exports has grown much more quickly than the price of our imports. As Mr Hawkins said, we are a net oil importer, so, even though the price of imports has risen with the price of oil, the price of exports has vastly outstripped that.

Senator O'BRIEN—Thank you, China!

Dr Kennedy—Yes, certainly China has played an important role in that.

Senator O'BRIEN—It would be interesting to see where our economy would be if China was not going through the burgeoning growth that it is going through at the moment, wouldn't it?

Dr Kennedy—It would. Those counterfactuals are always hard, but—

Senator O'BRIEN—The rise in various commodities, particularly from the minerals sector, is almost totally attributable to burgeoning demand from China, isn't it?

Dr Kennedy—I think the global economy, if you like, has been above trend for at least three years, but China is consuming more than a third of the world's production of iron ore in its construction boom. So the energy aspect and the construction aspect are certainly feeding demand, and we are fortunate to be an exporter of those things that are desired.

Senator O'BRIEN—That they need.

Dr Kennedy—It is a positive impetus for the economy.

Senator O'BRIEN—It is unlikely, isn't it, that the current prices in the minerals sector would be being achieved if there was not such strong demand from China?

Dr Kennedy—Yes.

Senator MILNE—I just want to pursue the line of questioning that Senator O'Brien has begun in relation to fiscal prudence, the forecasting period and the long-term price of oil. To cut to the heart of it, what is Treasury's view about peak oil and oil depletion?

Mr Hawkins—We have not done a study of it. I am not sure that peak oil is a terribly well defined concept. The amount of oil produced will depend on what the price of oil does and the price of oil will itself reflect the production of oil. It is also not clear to me that oil production necessarily has to steadily increase and then from that point steadily decrease. It may well be the case where oil prices are relatively low, you have not much exploration and production starts to drop off. That drives the oil price up. That then leads to an increase in exploration. Gradually, oil production starts to increase again. I note that ABARE's forecast has that pattern for Australia. It may well be that that applies more broadly across the world. It is not obvious to me that there has to be a single peak in oil production.

Dr Kennedy—I would add that there is no sense of peak oil, if you like, in the budget forecast. The assumption I talked about before about non-rural commodity prices falling back, this is the general demand for non-rural commodities at the moment. The price increases we have seen for coal, iron ore and a range of other minerals have pretty much matched the price increases we have seen for oil. We do expect a supply response. That is very difficult to predict. But once we get some of that supply response you would expect to see the prices come back. What we assumed in budget was that prices would fall back in two steps in the first two of the projection years, which brings back the income growth in the economy more slowly so that revenues would grow more slowly than they otherwise would with our standard projection methodology. But that is not an assumption that is reflecting a view on peak oil. It is basically, if you like, our best guess around how this boom in commodities will play out.

Senator MILNE—From what you said, your assumption is that, if the price is high enough, more will be found—that there is an unlimited supply of oil—

Dr Kennedy—I was not talking about oil; I was talking about non-rural commodities.

Senator MILNE—I am specifically asking about oil. The response I have just received is that, if the price is high enough, more will be found, hence if you just put more money into exploration you will find more and demand will be met. Is it fair to say that, when Treasury identifies the risks to oil supply, they are not identifying oil depletion or a point at which oil is going to decline as part of that risk?

Dr Kennedy—No—

Mr Hawkins—As well as the exploration there are certain fields which are not viable at a low oil price that are viable at a high oil price. So I think you will get more supply when the price is high.

Senator MILNE—This is the whole point. From what you are saying I can assume that Treasury is acting on an assumption that there is no problem to physical supply; it is just a question of accessing that supply at a price? If the price is right, the supply will just flow?

Mr Hawkins—I do not think we are ever going to run out of oil in the sense that, as oil becomes shorter and shorter in supply, the price will just go up and demand for it will decrease.

Dr Kennedy—These are general comments about how the economics of this might play out. In terms of the budget planning, we are simply taking our best view of what may come out

across the course of the next one year or 18 months for our forecast. Then, as I said, we have an assumption in our projection methodology because of the boom. We wanted to be careful about the implied surge in revenue that is implied by these very strong commodity prices and not build that into the projection methodology and in a sense pretend that that boom will go on forever and a day.

Senator MILNE—The problem I have—and why I raised the issue of fiscal prudence and the length of a forecasting period that is taken out to only 18 months—is that the committee has had evidence from the Australian Petroleum Production and Exploration Association which looked at the balance of trade consequences of a supply shortfall. The APPEA provided a graph, which no doubt you can look up, in which they had Wood Mackenzie do an estimate on the assumption that, if the price of oil were \$US50 a barrel, the trade balance shortfall arising from the decline in domestic oil production and from the increased import of oil to Australia would be in the range of \$25 billion per annum by the year 2015. Do you think it is responsible of Treasury to be looking at oil in an 18-month context when oil explorers and associated companies are recognising oil depletion and starting to estimate for that kind of price—which is a pretty well accepted estimate of what Australia will be importing by 2015? Isn't there a major risk to the Australian economy?

Dr Kennedy—There are two sets of issue here. Firstly, we are talking about our budgetary process. There are other areas in Treasury, which Mr Colmer referred to, which do have policy responsibility for thinking about environmental issues and longer term structural issues around the economy, including the nature of certain industries and how they will play out.

I will make one point on the implied deficit in oil, with oil remaining at a high price and with no knowledge of that exercise: those exercises are quite difficult because they depend on what you assume is going on with coal and a range of other energy commodities. Australia being a net importer of oil or not being self-sufficient in oil is not in and of itself a bad thing. As Senator O'Brien pointed out, we are benefiting extraordinarily at the moment from the demand from China for our other commodities.

How the overall economy and how our economy performs if, for example, oil stayed at \$50, is not clear to me at all that that should necessarily become a large, ongoing negative for Australia. It is clearly an adjustment that has to be made, but if that reflects strong, ongoing global demand, there may be a number of positives for Australia in terms of demand for other commodities. As outlined, we are a net energy exporter in the order of two per cent of GDP and a net oil importer of around one to 1½ per cent. If energy prices in general go up, Australia benefits in aggregate.

Senator O'BRIEN—Except for inflation, because of the impact of costs on our economy.

Dr Kennedy—Certainly there is an adjustment to take place, but relative to a country who is a net energy importer, we are clearly better off. There are a number of countries in the world who are net energy importers, and they are being hammered by this. We actually have an offset; we earn some income.

Senator MILNE—I want to return to the representatives of Treasury who look at policies for long-term strategic impacts. Where does Treasury get the advice that informs it in making not

specifically the 18-month forecast but this shift, or structural readjustment, if you like, on peak oil? Where does it get its advice from, and what are its assumptions?

Mr Colmer—To a large extent, Treasury relies on other portfolios. The department of industry is the major department responsible for the oil industry more generally. Organisations such as ABARE provide advice to the department of industry. The work that Treasury does on this is really more about general issues around how does that sort of issue flow through into the broader economy. We tend to rely on those other departments who have much greater in-depth knowledge around the long-term projections for industry. We would be essentially relying on ABARE and the department of industry. Certainly we talk with the APPEA and other organisations like it. We do not necessarily take things as given; but, fundamentally, we do rely on external advice.

Senator MILNE—In that context, how do you quantify the risks when you identify, as you do in your budget papers, oil supply as a risk? In quantifying those, what are the results of your analysis? What is the analysis of Treasury about possible supply constraints?

Dr Kennedy—The risks that Treasury write about in budget statement 3 tend to be risks around the near to medium term. So at the moment we would be broadly accepting of the line that a large part of why oil prices have increased to the extent that they have is that global demand has been so strong. But we do see a range of potential supply issues, many of them of a non-economic nature, perhaps in the Middle East or where there are other types of disruptions. With the global oil market particularly tight—though, I think, having improved a little more in recent times—and the inventories relatively low, there is the potential for the oil price to rise by more.

In a sense we consider that a reasonable risk and would want to think about what effect that would have on the economy. It has probably been discussed at this inquiry. It has been an interesting feature of this oil price increase in that global demand has remained strong and the Australian economy has also done quite well despite the fact that petrol prices have risen quite a lot. Again, that is a sign of the demand aspect of this increase. But, if for any number of reasons we were to see an unforeseen reduction in supply, that would have negative consequences.

On the medium-term issue of how these things will play out for Australia, again, we have to think about how they are going to transfer to demand for other products like coal or other commodities. We have to ask whether this is particularly an oil story or it is a general demand for non-rural commodities story. You have to disentangle that story. We are alive to the issue that the supply response in the oil market may not come as quickly and as vigorously as it will in other commodity markets, perhaps because of the nature of the oil industry itself. That could mean that those prices, if you like, will remain higher for longer than they do for other commodities. That goes back to us in a sense planning for the potential for other commodity prices to fall, hence our projection methodology assumption, which is related to coal and iron ore prices, not oil prices.

Senator MILNE—I understand what you are saying, but it assumes that there will always be supply at a price. The current demand is for something like 84 million barrels a day. The current supply just meets that. There is very little, if any, spare capacity in the global market at the moment. If demand keeps on rising because of economic growth in China, India and so on and

supply does not meet that, which is what the projection of the peak oils is, then the price goes up. But look at who owns the oil—80 per cent of the oil is owned by countries which have entered into long-term supply contracts, and Australia is not one of those. That is why I am really concerned to hear that ABARE is the main adviser to Treasury in relation to this. I would like to ask if we can as a committee be updated, maybe through the estimates process, on what work is being done on peak oil and the risk to the Australian economy if ABARE is wrong. I am just saying I will be asking that in the estimates process.

Senator NASH—This is not an issue I know very much about. I am interested in—and I appreciate that you probably cannot give the committee this right now; if you would not mind, please take it away—the cost to government of the amount of petrol that is claimed as a tax deduction. Can you explain to me how that process works and what the cost to government would be of the fuel, particularly petrol, that is claimed as a tax deduction? Is that how it works?

Mr Colmer—There are a couple of things there, and I am not sure what you are actually getting at.

Senator NASH—It is possible to claim the percentage of fuel used as a business expense, isn't it?

Mr Colmer—You can certainly claim fuel as a business expense. There are some specific fuel grant schemes, and the parliament recently passed the Fuel Tax Act, which provided the framework for the fuel tax credit system for business use of fuel. That provides a refund of excise paid for fuel used by businesses in certain activities. The longer term view, though, is that all business use of fuel will be eligible for an excise credit except for small vehicles on road and for larger vehicles to the extent of the road user charge. Businesses are also generally eligible for an input tax credit on the GST component of fuel and also, as a general rule, they would be entitled to an income tax deduction for the cost of fuel. But I do not think there are specific figures available on any of those except the first one, the excise one, and that is in the order of \$3 billion a year.

Senator NASH—So you do not have a figure on those individuals who are claiming an income tax deduction on fuel used for business purposes?

Mr Colmer—I would be surprised if we had that figure readily available.

Mr O'Connor—No. Those expenses claimed would simply be claimed in a person's or an entity's tax return as 'expenses incurred in gaining the income of the business'. So it would be included with a vast range of other expenses that are incurred. There is no break-up of that.

Senator NASH—Quickly returning to this issue of the excise paid on ethanol: given that we have just got to the end of the financial year, is that a figure that you have readily available, as I asked before? Often we have to wait some time for answers to questions on notice to come back, but I am trying to determine if that is a figure that is easily gettable, if perhaps we could have it by the end of the day.

Mr Colmer—I will have to have a look and see what is available. One of the problems with ethanol and providing figures on ethanol at the moment is that there are a very limited number of

ethanol producers, and under the secrecy provisions of the tax law there are some sensitivities around what information we can provide on ethanol because it may in fact relate too closely to the affairs of specific entities. I need to take some advice on that.

Senator NASH—I understand there would be those sorts of issues and I certainly do not want individual amounts. I am quite aware of that. But all I want is the total amount—no indication of any businesses or any breakdown, just the total amount.

Mr Colmer—My point is that the total amount may be predominantly the operations of one particular company, in which case there might—

Senator NASH—But you certainly do not have to indicate that to me, so I would never know that.

Senator O'BRIEN—Keep asking your own suppliers for the breakdown. It has not been controversial or in confidence.

Mr Colmer—ITR operate under their program for grants and they may be able to provide information which is not subject to the specific legislative requirements of the tax law—

Senator O'BRIEN—It is not 'may'—they do.

Mr Colmer—so it may well be that ITR can provide that information more easily.

Senator NASH—We will certainly ask them as well, but you are the guys with the bucks over there.

Mr Colmer—I will need to talk to them, because fundamentally ITR has the same information but from a different source, which is not protected in the same way.

Senator NASH—It might be easier to extract it from ITR than Treasury. Perhaps you could at least let us know by the end of the day whether it is possible to provide it around those secrecy provisions.

Mr Colmer—We will see what we can find for you.

Senator NASH—I am sure with those secrecy issues it would be easy to determine by the end of the day whether or not you could supply the information. It may take a little longer if you can, but whether or not you can provide it could certainly be found by the end of the day.

Mr Colmer—We will see what we can do and we will let the committee secretariat know by the end of the day what is doable.

Senator NASH—I appreciate that. Thank you.

Senator WEBBER—I want to turn to the issue of data and forecasting. This committee at some point has to make some recommendations and has to form a view of the future of oil. Where, in Treasury's view, therefore, do we get the best and most reliable data? You talk about

the predictions you make on the cost of oil and what have you, as contained in the economic outlook. We have ABARE's predictions. Where is the most robust data?

Mr Hawkins—The people with the most expertise and the most staff looking at these issues would be ABARE.

Senator WEBBER—So they are the ones we should go with, even though almost every state government agency says they do not find the data in their planning credible.

Dr Kennedy—That is the area of expertise in the federal government where resource economics are analysed. They are the ones that look particularly at a range of commodities in detail, in much more detail than Treasury would.

Senator WEBBER—So, as Senator O'Brien was saying, when they have the price falling to a nominal \$US44 by 2010 yet the economic outlook seems to keep it more at \$US70 a barrel, we should go with the \$US44?

Dr Kennedy—For the next 18 months we have a technical assumption which we have used because of the difficulty in forecasting oil prices. We do not pretend that we can forecast oil prices. I cannot comment in detail on ABARE's assessment of supply and demand and where their projection comes from. I do not have specific expertise in that. But, from a forecasting perspective and from doing 18-month forecasts, the best practice is to use what the market suggests the oil price will be over that period, and that is what we do.

Senator WEBBER—And I think that is a very sensible approach. So, if I take your forecasts for the next 18 months, ABARE should be able to give me the same. If theirs is the most reliable data, they should come up with the same figure.

Dr Kennedy—I am not sure what your question is.

Senator WEBBER—From what they have said to the committee before—and, unfortunately, I am not going to get to talk to them this afternoon because I have to go back to Perth—there seems to be a bit of a conflict between what they say is going to happen by 2010 and your forecasts. I accept that forecasting is a science all of its own—

Dr Kennedy—Science is perhaps an overstatement.

Senator WEBBER—but there does seem to be a bit of conflict. If I accept what you say about what is going to happen in the next 18 months and I accept what they say is going to happen by 2010, some time between the end of the next 18 months and 2010 there is going to be a very sharp decline in the price, if both those figures are right.

Mr Hawkins—That is the implication, yes.

Senator WEBBER—Why do we think there will be a sharp decline in the price?

Dr Kennedy—We do not have a view on whether there will be a sharp decline in the price. We adopt a methodology for preparing the macroeconomic forecasts. We think it is a good one.

It is commonly adopted by central banks and other treasuries. Again, I cannot comment in detail on what ABARE is doing, but I presume that they are trying to do a longer term, more structural style of analysis. You will have to ask them to forecast the blips or how things will be going. They have come up with a view of where oil will go over the longer term, but that is not our focus in preparing the macroeconomic forecasts. We are looking to do the best that we can over the next 18 months to two years.

Mr Hawkins—My understanding of ABARE's analysis is that they think that, at prices well above \$45, there are a lot of other energy sources that will come onto the market, with a bit of a lag, and that will drive the price back down again. But that will take a while to happen. It may be that it is quite consistent that the price stays up for 18 months and then starts to fall. But you should speak to ABARE if you want to get the detail of their analysis.

Senator WEBBER—We will. But, surely, if all those extra sources come on the market, then exploration will fall. Then supply will go down so the price will go up.

CHAIR—And those new energy sources are reliant on a high price, so the cost is not going to go down. They are only economic at a certain price and they require a cost on carbon. Have you done any work on the cost of carbon and how that would play out or any mechanisms for—Heaven forbid—a carbon tax or something like that? That is what they are relying on for those sources. For example, coal to liquid relies on a cost to carbon.

Dr Kennedy—I am not aware of any work being done at Treasury on that. I will just ask my colleagues.

Mr Colmer—The government has made its position on carbon tax clear. It has rejected the notion of a carbon tax.

CHAIR—I realise that. So, ipso facto, ABARE's work is out by that factor.

Mr Hawkins—That is something you would have to address to ABARE.

CHAIR—They are not setting government policy. They are not setting the future direction for the country; they are providing the information to do that. Who do we get that information from? Who in government is doing that thinking if you, as I understand it, are not?

Dr Kennedy—The thinking on what, Senator?

CHAIR—The impact of rising oil prices—that is one of our terms of reference—on the economy? Who is looking at that in terms of policy direction? Who is analysing whether ABARE's analysis is correct and what it implies for policy settings for Australia?

Dr Kennedy—We can discuss the impact of increasing oil prices on the macro economy—what it has been to date, how we have it feeding through our forecast period and how that feeds into budget estimates. However, we do not do detailed analysis of the peak oil issues that senators have raised before. There is the micro analysis of how much is out there, when it is going to be brought online and those sorts of things. I am not aware of that style of work being done in Treasury, but certainly in our macroeconomic area we are thinking about the impact on

the economy of high oil prices and other commodity prices, how long in the budgetary process we expect that to go for and what economic impacts we expect that to have. For example, we are thinking about what impact it has had on inflation—it has clearly had an impact on inflation—and what impact that might have as it flows through the economy. Those types of issues are being thought about at Treasury. However, and certainly not in my area, the medium term peak oil considerations that senators raised are not being thought about. That type of analysis tends to get done at ABARE.

Senator MILNE—Do you accept that if peak oil is right there is no fiscal prudence in projecting economic impacts within an 18-month period?

Dr Kennedy—I am not sure what you mean.

Senator MILNE—I accept absolutely that you deal with an 18-month period because you assume business as usual, that is, that the market is going to operate into the future and that the high price will generate supply. That is the assumption underpinning what you are doing. If peak oil is correct and the earth's oil is running out then a business as usual 18-month forecasting period is not fiscally prudent for long-term planning for how the Australian economy might shift to adjust to that kind of carbon constrained world. We could add to that climate change, but I am not going to go there right now. A lot of the futurists are saying that the current economics assumption of business as usual is not taking into account some realities.

Dr Kennedy—I will move away from the budgetary processes and talk about these economic issues. I hear and read about the issue of people feeling that economists are too comfortable with the idea that there will be a response to high prices and that supply will be brought on and people will substitute away from certain goods. This is the finite resource aspect of these things. One thing that we are clearly focused on as economists is the behavioural responses to these types of issues. Even in the data now you can see things happening. As Mr Hawkins pointed out, there is a surge in demand for fuel efficient cars at the moment, and demand has fallen off for the larger cars. The volume of petrol consumed has remained quite steady—in fact it may have fallen over the last three years. People change their behaviour. I am not being sanguine about what that means for economies when you get rapid changes in prices. One thing that is helping us through the current change is the fact that rather than supply just being drawn from the market it reflects China's re-emergence in the global economy, and that is a big net positive for the global economy and for Australia.

Senator MILNE—Maybe I can put it to you another way, in the context of what you are saying: had Treasury looked ahead they may have tied grants—to the Ford Motor Company, for example—to making fuel efficient vehicles, predicting that that will be the trend. Had that occurred, Ford and Holden may be more competitive against foreign imports of small, fuel efficient vehicles so that when the shift occurred, as it is occurring now because of price, you would have Australian manufacturers being more competitive. China has set a mandatory fuel efficiency standard; its vehicles will comply with that standard. Australian vehicles will not be competitive against those. That is the point I am making. You are saying the market will respond to the realities; we are saying that, if you anticipate the realities, you may take policy initiatives through Treasury, like how you tie grants and things, to actually make the Australian economy more resilient.

Dr Kennedy—I think you need to be realistic about how effectively you are going to anticipate those realities. It is clear from the general fall in mining capital expenditure that we saw in the late 1990s and early 2000s that mining companies, for example, were not anticipating the amount of demand that was about to come forward for their commodities. That is why prices rose so quickly. You are drawing out a specific oil story, but there is a general commodities story here that we should not miss. Back in the late nineties there was a great front page of the *Economist* which said: ‘When will oil hit \$5 a barrel?’ There was a period when oil was around \$10 a barrel and people were wondering what the future was for the oil industry. Hence there was a lack of investment in oil supply for a long period. I am not in a position to carefully explore the specifics of the industry, but my experience with the way the economy moves around is that it is very difficult just to pick out exactly when and where these things are going to happen. Presumably, if miners knew there was going to be a large increase in demand for their products, they would have started increasing their mining capital expenditure well before they did. But that is very difficult to anticipate. Hence we classically get cobweb cycles in mining booms, where people can tend to overinvest, for example. Then we have oversupply and we go around again.

Senator MILNE—I have a final question on fringe benefits tax, because that is really important to this inquiry. What is the policy objective underlying the motor vehicle fringe benefits tax concession?

Mr Jacobs—There are two methods for calculating fringe benefits tax where an employer provides a vehicle to an employee: an operating cost method and a statutory formula method. The operating cost method requires—

Senator MILNE—I am asking: what is the objective of giving a fringe benefits tax on motor vehicles?

Mr Jacobs—The objective around why fringe benefits tax is imposed on motor vehicles?

Senator MILNE—Yes, what is the policy underlying that concession?

Mr Jacobs—It is effectively the equity principle—if your employer provides you with a salary or wage or with a non-cash benefit, it should be subject to taxation. So the ability of an employee to use a vehicle for private purposes is a benefit to that employee.

Senator MILNE—In this COAG process that you are going through, is the abandonment of that fringe benefits tax concession and maybe moving the concession to public transport being considered as a way of dealing with traffic congestion?

Mr Jacobs—That raises issues about why the current statutory formula method is there. It effectively provides a low cost of compliance method. It means the businesses do not have to calculate the number of business kilometres travelled. Any shift away from that would have to come up with a mechanism which also reduced compliance costs.

Senator MILNE—Why is it being provided at a concessional rate?

Mr Jacobs—It was calculated and the rates have been set as an implicit business use. The different rates at particular thresholds are underpinned by an assumption about business use.

Senator MILNE—But do you recognise that it is leading to people driving their cars more in March to get to a certain level? Do you accept that it is driving fuel consumption and usage, when we are actually trying to reduce fuel consumption?

Mr Jacobs—I guess I would accept that at the margin it is going to increase people driving extra kilometres to meet a particular threshold. But I would not accept that employees would enter into an arrangement if they were not otherwise going to drive that particular number of kilometres.

Senator MILNE—You have never heard of the March rally?

Mr Jacobs—I guess the question is: would people make a decision to drive kilometres that they otherwise would not want to drive, at that level? There are thresholds around 40,000 kilometres and 25,000 kilometres; if you are otherwise going to drive relatively close to those thresholds, then you might drive some extra kilometres to make sure you meet the threshold, or you might provide the car to another family member, which I guess would then mean that the other family member might not be using their other car for those purposes. So I guess we do accept that, at the margin, people will adjust behaviour to meet the threshold. But whether they would enter into an arrangement just to get to that threshold, when they otherwise would not be willing to travel that number of kilometres, I think would depend on individual circumstances.

Senator MILNE—Can I get an answer to my question in relation to this COAG process that is going on, looking at transport and congestion and so on. Is that being considered to provide a fringe benefits tax for a concession for public transport?

Mr Jacobs—I guess you would have to look at how you design a concession. Is fringe benefits tax the most appropriate way to provide an incentive for people to use public transport? And I guess I have not seen clear evidence that that is the case.

Senator MILNE—But if you took the concession off vehicles and gave the concession to employers for public transport, would that work?

Mr Jacobs—I don't—

Senator MILNE—Don't you think it is something that should be looked at?

Mr Jacobs—If you were to start using the fringe benefits tax regime to provide an incentive for people to use public transport, you would run into an issue about effectively providing a tax deduction for private expenditure. So, are there are more efficient ways of providing an incentive for people to use public transport, other than a tax incentive through effectively giving the equivalent to a tax deduction for private travel?

Senator MILNE—Would you mind tabling for the committee the current tax expenditure created by the concessionary treatment of the car fringe benefits tax? Can you indicate how

many cars are involved, and what the average value is of the concession per car? Would you be able to provide those figures on notice for me?

Mr Jacobs—We will provide that information as best we can.

CHAIR—That is the end of our questions. Thank you very much. And if you could supply to the secretariat the information that you said you would, that would be great.

Proceedings suspended from 11.03 am to 11.21 am

ASHURST, Dr Naomi Alison Smith, Manager, Alternative Fuels and Fuel Supply Section, Department of Industry, Tourism and Resources

BEESTON, Mr Jeff, General Manager, Automotive, TCF and Engineering Branch, Manufacturing, Engineering and Construction Division, Department of Industry, Tourism and Resources

CHAMARETTE, Mr Jonathan, Resources Taxation Section, Department of Industry, Tourism and Resources

CRAWSHAW, Mr William Arthur, Manager, Resources Taxation Section, Safety, Taxation and Projects Branch, Resources Division, Department of Industry, Tourism and Resources

LLOYD, Mr Chris, Manager, Major Projects Section, Safety, Taxation and Projects Branch, Resources Division, Department of Industry, Tourism and Resources

PEGLER, Mr Bob, General Manager, Offshore Resources Branch, Department of Industry, Tourism and Resources

SQUIRE, Mr Martin, Manager, Petroleum Refining and Retail Section, Department of Industry, Tourism and Resources

FOSTER, Dr Clinton, Chief of Petroleum and Marine Division, Geoscience Australia

Le POIDEVIN, Mr Stephen, Senior Reservoir Engineer, Geoscience Australia

WRIGHT, Mr Denis James Davern, Chief Petroleum Engineer, Geoscience Australia

CHAIR—Welcome. I am presuming that you have all already heard my remarks to the effect that you are covered by parliamentary privilege, so I do not need to repeat that. I invite you to make a brief opening statement.

Mr Pegler—My departmental colleagues and I are appearing here today at the committee's request, through a letter to our secretary, Mark Paterson. I have brought a significant team with me because we were not quite sure about all the issues you wished to cover, so we have tried to bring the relevant experts. I will introduce those at the table: Jeff Beeston, who looks after the automobile area of the department; Martin Squire, who looks after the downstream petroleum end of things; Naomi Ashurst, who looks after alternative fuels in particular; and Bill Crawshaw, who looks after the offshore resources taxation regime. I know those were issues that you had flagged in the letter, so that is where we will start, but we do not have any further opening statement to make.

Senator O'BRIEN—I want to ask some questions about the Prime Minister's statement on energy initiatives, and no doubt you are expecting some. With respect to the subsidy for LPG vehicles, whereby the government is paying \$1,000 towards the cost of a new LPG vehicle for private use and \$2,000 towards the cost of a conversion for private use, how was that costed?

Can you give me the estimated number of vehicles in each category, by year, that are expected to attract the subsidy?

Mr Beeston—You would, doubtless, appreciate that the estimates that we have derived are necessarily based on fairly incomplete information, but they are the best estimates that were available in putting together the program. The initial estimate is that, in the current financial year, there would be about 57,000 conversions. There are also estimates for the sale of new vehicles, which are 7,000. Would you like it year by year?

Senator O'BRIEN—Yes, that would be good. I would love to have those figures year by year.

Mr Beeston—In 2007-08 the assumption is that there will be an increase in the order of about 85,000. In 2008-09 the increase will peak at a figure of about 128,000. Thereafter, there will be 100,000 and in each subsequent year roughly 76,000. Again, I would emphasise that in deriving these figures from the information available, we had to rely on a number of assumptions which may or may not prove to be 100 per cent accurate. But they were the best available at the time that those calculations were being made.

Senator O'BRIEN—Are you estimating 7,000 new vehicles per year or has that changed over the year?

Mr Beeston—Estimates for new vehicles range from 7,000 initially, increasing to roughly 10,000 and 16,000, again peaking in 2008-09 and thereafter decreasing to roughly 12,000. In 2009-10 and thereafter, the assumption is that there will be slightly fewer than 10,000 a year. The number of new vehicle purchases is obviously significantly smaller than the estimated number of conversions that would be undertaken under the scheme.

Senator O'BRIEN—What was the expectation of the department about the impact of the subsidy on the actual price of the conversion?

Mr Beeston—Whether the actual application of a subsidy would produce any change in the price of conducting a conversion?

Senator O'BRIEN—Yes.

Mr Beeston—I do not know that we had a firm view. I guess that people will make their own judgements about what might happen. I suppose one view would be that, because of the increased demand, there may be pressure on the cost of a conversion and the price may rise. We do not really know. The market will determine what that price will be, I guess. We will have to see.

Senator O'BRIEN—I constantly hear the claim that, whenever the government provides a subsidy, business will find a way to take an extra share of that. Why would this be any different?

Mr Beeston—I guess that is one view that people might have. I do not know—that may prove to be the case or it may prove not to be the case. We will have to just wait and see what happens.

Senator O'BRIEN—Senator Webber says that it is already proving to be the case in Western Australia.

Senator WEBBER—In Western Australia, as you would be aware, we have had a subsidy since 2001. Initially, it was \$500 and then it was \$1,000 with this new one. I am advised by industry sources that the price of conversion has already gone up in the west considerably.

Mr Beeston—That may be the case. I could not comment on what may have happened in WA.

Senator O'BRIEN—So it was not factored into this process at all? Obviously you are projecting an increase in demand. Do you know what the current rate of conversion was pre subsidy?

Mr Beeston—In the last full year the number of conversions undertaken was slightly in excess of 30,000.

Senator O'BRIEN—So we are going to be trebling, then quadrupling, then falling back to just over trebling and then dropping again?

Mr Beeston—It is projected that there will be a significant increase in the number of conversions but that that increase will ramp up over a period of years as the industry develops the capacity to actually meet the demand that would be generated through this initiative.

Senator O'BRIEN—Apart from the qualification of those who fit the conversion, what knowledge does the department have about the supply of componentry for the conversion?

Mr Beeston—The main component required is the tank that is fitted in the process of the conversion. We understand that the manufacture of those tanks may provide something of a constraint initially on the number of conversions that are able to be undertaken. However, there may be alternative sources of supply for those tanks in the short term. They may be able to be imported, for example. Obviously, we would prefer that they could be manufactured here, but it remains to be seen, again, how quickly that manufacture can increase to meet the demand.

Senator O'BRIEN—Privately, the Ford representative told me and another member of the committee that there is currently a constraint on Ford in fitting conversions because of the supply of tanks for their purposes. That necessitated an approximate three-month delay on supply. Was the department aware of that when it looked at this matter?

Mr Beeston—We have heard a range of views about the availability and supply and the delays that may or may not exist in the fitting of conversion kits. The LPG Association claims that it has the ability to undertake up to 70,000 conversions a year in the short term, which would suggest that there is some immediate scope for an increase in the number of conversions being undertaken. On the other hand, as you say, anecdotally there are stories in some regions of existing delays in conversions. There are a number of different points of view about the current situation and the ability to increase that capacity immediately.

Senator O'BRIEN—Did the department ascertain an average price of conversion in its preparation of information on this matter?

Mr Beeston—Obviously, we made some inquiries as to what those costs are, and they vary quite significantly, depending on a number of factors, including the type of vehicle that is being fitted. The advice that we had was that there was a very wide range in fact, from as little as perhaps \$1,500 to up to \$3,400—that is the figure that we have been quoting. But it is certainly quite a broad range and depends on a number of factors.

Senator O'BRIEN—This is a program which, I take it, is capped to the amounts announced.

Mr Beeston—I beg your pardon?

Senator O'BRIEN—Is it a capped amount that is being provided for with this subsidy?

Mr Beeston—There is no cap.

Senator O'BRIEN—So these are estimates of expenditure; they are not—

Mr Beeston—They are estimates based on the assumptions about how the demand will increase in response to the subsidy.

Senator O'BRIEN—In terms of the incentives to retailers of ethanol blends—that payment of up to \$20,000 towards the cost of converting a service station to sell E10 blends in two amounts of \$10,000, one for completion of the work and the other for achieving a sales target—how many sites does the department expect will be converted?

Dr Ashurst—The figure that we were working on was 700 sites being converted.

Senator O'BRIEN—Have you got a regional or a state by state breakdown of where you expect that will take place?

Dr Ashurst—No.

Senator O'BRIEN—How did you arrive at the figure?

Dr Ashurst—By looking at the number of sites that there are currently and at the total number of retailers and working out roughly how many would be of a big enough size to be interested in having that additional capacity.

Senator O'BRIEN—Is this a capped amount or is this demand driven?

Dr Ashurst—It is demand driven, although we have an estimate in place.

Senator O'BRIEN—Yes. But as I was saying in relation to the subsidy for LPG vehicles, I am interested to know whether demand exceeding your expectation is able to be funded under the current announcement.

Dr Ashurst—I guess we would have to come back and ask for more money if it was exceeded.

Senator O'BRIEN—So it is capped at the moment?

Dr Ashurst—Yes.

Senator O'BRIEN—So if you achieve the \$17.2 million spend over three years, that will mean that each of those 700 sites reached the ethanol blend sales target. How much ethanol will need to be produced to meet that target?

Dr Ashurst—We will need to undertake some industry consultation to set an appropriate target.

Senator O'BRIEN—So we do not know what the target is yet?

Dr Ashurst—No.

Senator O'BRIEN—How far away is that? That must be a figure that any sensible business would need to know before they engaged in spending the money in expectation of achieving that subsidy.

Dr Ashurst—Yes. The program is due to start operating from 1 October, so that will be when the guidelines will be established and the sales target will be set in place.

Senator NASH—Is it a sales target per site?

Dr Ashurst—Yes.

Senator O'BRIEN—I assume that as well. I assume that it will be the same target for each site. Is that right?

Dr Ashurst—That is still to be determined.

Senator O'BRIEN—So there could be variable targets in different markets?

Dr Ashurst—I cannot answer that.

Senator O'BRIEN—Could you take that on notice?

Dr Ashurst—The infrastructure costs could be quite different, depending on what is actually undertaken, and so there could be a link between that and the sales target.

Mr Pegler—That is one of the things we would need to consult with industry about. You could have a difference between metropolitan sites and rural sites, for instance, depending on expected sales.

Senator O'BRIEN—But the first \$10,000 is the same for each site?

Dr Ashurst—It depends on the infrastructure upgrade required.

Senator O'BRIEN—So it is up to \$10,000?

Dr Ashurst—That is correct.

Senator O'BRIEN—My note does not say that, but that is not your fault. How will that be assessed? Will you be looking at paying a proportion of the cost up to \$10,000?

Dr Ashurst—Part of the industry consultations is to find out how much it would cost, roughly, to do the sorts of infrastructure upgrades that would be required. For example, if it is just a case of cleaning out existing tanks and lines, that might be a much lower cost than if they have to put in a new tank. We need to find out what sorts of costs are associated with the infrastructure upgrades so that we can set two or three amounts.

Senator O'BRIEN—Where did the \$10,000 figure come from then?

Mr Pegler—We believe that is probably sufficient to cover the majority of an upgrade cost at the top end. But there are a number of options below that at a lesser amount which could be picked up.

Senator NASH—Because, as you said, it is up to \$10,000. It was not a specific amount.

Mr Pegler—We have tried to pick up a peak.

Senator NASH—So just to clarify: \$10,000 is probably the most anyone would need to put in the new infrastructure, and the finance provided will be on an assessed basis up to that level?

Dr Ashurst—In actual fact there was a statement from the Biofuels Taskforce that Mobil estimated it would cost between \$15,000 and \$20,000 to upgrade a site. So that was where the \$20,000 figure was taken from.

Senator NASH—It is a great initiative. So they will get up to \$10,000. In essence, it may well cost more than that, but if they meet their target they will be further compensated?

Dr Ashurst—That is correct.

Senator O'BRIEN—So the total figure of \$20,000 was based on the Mobil estimate?

Dr Ashurst—On the Mobil statement.

Senator O'BRIEN—Was that the totality of information that the department had?

Dr Ashurst—We have had other estimates that have gone up to \$60,000, but that is the only one that is on the public record.

Senator NASH—Mobil do not actually use ethanol, do they?

Dr Ashurst—Not at the moment.

Senator O'BRIEN—I am glad that you have revealed that, Senator. If I understand you correctly, the \$20,000 figure has been split into two components?

Dr Ashurst—That is correct.

Senator O'BRIEN—And the first component payment amount is likely to depend on the actual cost by site?

Dr Ashurst—That is right.

Senator O'BRIEN—Is it envisaged that the totality of the cost conversion could be paid out of this subsidy for a particular site, or is it envisaged that only a certain proportion of the conversion will be payable out of the first \$10,000?

Dr Ashurst—It is envisaged that, with the sales target as well as the infrastructure, it could cover the entire cost. But obviously, with the sales target, that would be a significant target.

Senator O'BRIEN—But my question is about the first \$10,000. We do not know what the sales target will be and we do not know how achievable that will be and, if so, when, because that will depend on demand. But the first component payment is triggered upon conversion, as I understand it?

Dr Ashurst—Yes.

Senator O'BRIEN—What you have been telling us is that the payment is up to \$10,000 and, if I understand what you have said—and correct me if I am wrong—you do not envisage paying the totality of the cost of conversion out of the first \$10,000 payment.

Dr Ashurst—My understanding is that if it is a low-cost upgrade—for example, if it costs \$2,000 to do the clean-out—then that would be paid. If it is a more extensive upgrade then there would be up to about 50 per cent of the cost in that first payment.

Senator O'BRIEN—Have you drawn where that line will fall yet?

Dr Ashurst—That is part of the industry consultation that needs to be undertaken to find out what those costs are—to get more information about the cost of the upgrades.

Senator NASH—In terms of the package, it is important to note that it was obviously put in there, given that E10 is a cheaper fuel for motorists. In terms of what the package was trying to achieve, if we could give some assistance in terms of the infrastructure, it may well speed up the availability of ethanol out in the marketplace. It is a very sensible thing.

Senator O'BRIEN—If ever I have heard a leading question, that was one!

Senator NASH—I was just making a statement, Senator. Sorry to interrupt.

Senator O'BRIEN—To get back to my train of questions, you do not know where the line will be drawn and you talk about a lower cost initiative, which might just be cleaning out tanks.

What will actually be involved beyond that level for retailers to supply the ethanol component of the fuel?

Dr Ashurst—To some extent, that will be site dependent and will depend on the age of the site and whether or not the existing infrastructure they have in place is able to handle E10. One of the big bugbears with ethanol is that it attracts water. So if you have water in existing tanks then you cannot easily put ethanol into those tanks. That is why they need to be cleaned out. If you have older, pre-1981 tanks then chances are that they will not be compatible with ethanol. So either they will need to be replaced or a new tank will need to be put in if the site is going to take on ethanol. That can vary the costs significantly between sites.

Senator O'BRIEN—Do you have any figures as to the cost of establishing a site, the cost of either replacing tanks or adjusting, in whatever way is necessary, the pumping configuration?

Dr Ashurst—I do not have those figures.

Senator O'BRIEN—Does the department have them?

Dr Ashurst—The best information that we have is the Mobil statement. We have heard anecdotally that it could be up to \$60,000 for a new site to put in a tank. That also covers bowsers and the signage that would also need to happen.

Senator O'BRIEN—Did the department ask, for example, BP what its typical costs were for site preparation in Queensland?

Dr Ashurst—No.

Senator O'BRIEN—Did it ask any of the other major retailers which sell ethanol?

Dr Ashurst—No.

Senator O'BRIEN—In terms of the Renewable Remote Power Generation Program, how will the \$123.5 million over four years be rolled out?

Mr Pegler—Sorry, Senator, we do not have an expert on that particular program here.

Dr Ashurst—That will not be coming out of our portfolio.

Mr Pegler—I am fairly sure that is coming out of the Department of the Environment and Heritage, so you would need to direct your questions there.

Senator O'BRIEN—I guess we will. In terms of the two components of the initiatives to encourage further oil exploration—and I am not sure if this will be for Geoscience or the department to answer—there are two amounts: \$76.4 million over five years to Geoscience and \$59 million over five years—I am not sure whether that is to Geoscience as well.

Dr Foster—It is to Geoscience Australia.

Senator O'BRIEN—The amounts are to identify potential onshore energy sources such as petroleum and geothermal energy. Can you give us some idea of how that money will be expended by Geoscience?

Dr Foster—The first thing is that the areas we will be looking at will be in consultation with industry and, in the case of the onshore, with the states. In the offshore area, of which I am the chief, as Chief of the Petroleum and Marine Division, it will be expended in the acquisition of new 2D seismic. That, as you know, is a method of imaging the subsurface to look at structure and basin architecture. Some seismic will take place on land as well, but the program there is yet to be determined.

Senator O'BRIEN—Is there a breakdown between on-land and oceanic seismic activity in terms of the amount to be expended?

Dr Foster—Not at the moment with the on-land. There are a number of issues. We are really looking to increase the materiality of the size of the deposit, so there are a number of techniques we can use. In the offshore, as I say, we will be applying seismic. I estimate that there will be something in the order of 20,000 line kilometres of seismic in the offshore. There will be other techniques like seabed sampling and bottom coring and so on.

Senator O'BRIEN—How much does seismic normally cost per line kilometre?

Dr Foster—It depends on the size of the program. Perhaps I could answer that question by saying that, in the last tranche of money—the \$61 million—we will have shot 6,700 line kilometres and done quite a lot of seabed sampling. This is about four times that amount.

Senator O'BRIEN—What did the last program with 6,700 line kilometres cost?

Dr Foster—I can provide those figures for you.

Senator O'BRIEN—That would be good. Obviously, we could see how the expenditure is expected to compare to historical expenditure on these sorts of programs.

Dr Foster—I can say that the price of seismic has gone up 30 per cent internationally.

Senator O'BRIEN—Like everything else!

Dr Foster—Yes. I will provide those figures.

Senator O'BRIEN—What are the limitations in terms of vessel availability and skill availability in conducting that work?

Dr Foster—We think we will create a large enough program to be internationally attractive. It is our advice at the moment that we should be able to attract a vessel. For the previous program we rolled together seismic acquisition to form a 2,700 line kilometre program around Western Australia—the Bremer Basin and into the Perth Basin. That was attractive enough to bring the first 2D seismic vessel down to Australia back in 2004.

Senator O'BRIEN—What does TD stand for?

Dr Foster—Two-dimensional, as opposed to 3D or three-dimensional.

Senator O'BRIEN—I thought you said TD.

Dr Foster—I am sorry. I guess the best example is that we can imagine it as ultrasounding the earth. That is the best example I can give you.

Senator O'BRIEN—In terms of the department's role in examining the range of additional fuel and energy technology options, the government has announced that the department will continue to examine that range. What work has been done on that to date?

Mr Pegler—We continue to look at a whole range of alternative energy options. In the Prime Minister's statement he did state that he was going to give further consideration to gas-to-liquids and coal-to-liquids technologies later this year. We are continuing to work on that issue. We continually monitor developments both domestically and internationally in terms of all technologies for alternative fuels.

Senator O'BRIEN—The statement implied that this was continuing work and therefore you had been doing it on an ongoing basis. What work has been done to date?

Mr Pegler—For instance, we have done a number of studies on the economics underpinning gas to liquids. We continually look at the economics and the industry options in biodiesel, ethanol and all those alternatives. There is continuing work within CSIRO, other institutions and research agencies about research fuels, so we continually monitor that and bring that together.

Senator O'BRIEN—Do you fund CSIRO for any of that work?

Mr Pegler—Not directly.

Senator O'BRIEN—Is there a particular section of the department that is responsible for the examination of the range of additional fuel and energy technology options?

Mr Pegler—It is spread depending on the particular expertise and where it fits. For instance, the automobile area will look at certain aspects. We have an alternative fuels section that looks at some of those aspects. Other issues like gas to liquids will be looked at in terms of overall investment strategies, investment attraction and opportunities and gas supply availability pricing and developments.

Senator O'BRIEN—Is it fair to say that it has not been a large part of the department's work to date?

Mr Pegler—No, I do not think it would be fair to say that. We have done quite a lot of work. There are quite a lot of people who do this as part of their everyday work. There are various issues at various times that take more or less prominence, but it is a serious component of our work.

Dr Ashurst—There is a white paper, *Securing Australia's Energy Future*, and a Biofuels Taskforce paper. There was a significant contribution to both those documents from our department.

Senator O'BRIEN—Is there a specific section of the department that will be looking at the gas-to-liquids and the coal-to-liquids research?

Mr Pegler—Yes. It is part of the resources division. The part that looks at major investment opportunities will be looking specifically at those issues.

Senator O'BRIEN—You cannot give me a particular title? It is just part of the resources division?

Mr Pegler—It falls under the major projects section of the safety, taxation and development component of the resources division.

Senator O'BRIEN—I asked a question of Treasury and they referred it on to you, so I will ask it. Has this department conducted any cost-benefit analysis of options for reducing the impact of higher petrol prices—for example, demand management measures to reduce the long-term oil dependency of the economy?

Mr Pegler—I am not personally aware of any specific cost-benefit analysis that we have conducted.

Mr Squire—There have been some studies, not necessarily done within this department but by the Reserve Bank, for example, on the impact of higher fuel prices on the economy in general. In terms of a cost-benefit analysis of the impacts on other areas or specific sectors of the economy, no work has been completed to date that I am aware of.

Senator O'BRIEN—Does that mean there was no cost-benefit analysis of the initiatives in relation to LPG conversion?

Mr Beeston—I am not aware of any.

Senator O'BRIEN—Was there any such cost-benefit analysis of the initiative to encourage the conversion of service stations to retail ethanol blends?

Dr Ashurst—Not directly, but the petrol price concern was the main driver behind it. Diversifying the fuel supply and the availability of choices to motorists might have been a way of addressing petrol prices.

Senator NASH—I have a few questions surrounding biofuels—firstly, about the targets. The target for this year is 89 million litres to 124 million litres. How is that arrived at?

Dr Ashurst—That was derived from the industry actions plans, which were voluntary statements from the oil majors, the independents and the major retailers as to targets they envisaged they would be able to achieve by the end of the year.

Senator NASH—Who were the companies that submitted those plans?

Dr Ashurst—Three of the oil majors.

Senator NASH—For clarification, which three?

Dr Ashurst—Shell, BP and Caltex. Some of the independents and Woolies and Coles, I believe, were also part of that.

Senator NASH—How many independents?

Dr Ashurst—I do not know the answer to that.

Senator NASH—Could you take that on notice and provide who they were.

Dr Ashurst—Yes.

Senator NASH—Within those action plans and the target—and, say, we work on 89 million litres being the bottom—was that done as a break-up of biodiesel and ethanol? In those action plans did the company submit a particular volume of ethanol and a particular volume of biodiesel?

Dr Ashurst—Yes.

Senator NASH—What progress has been made towards that 89 million litres at the moment?

Dr Ashurst—At this stage, the companies' reports to the government have shown that they are on target.

Senator NASH—Out of the 89 million litres, out of the individual targets they put forward in their action plan that specified ethanol and biodiesel, are they at least halfway to providing both of those things, given that we are now eight months in—otherwise, how can they be meeting their targets?

Dr Ashurst—The projection towards December is still on target. In aggregate, they are looking forward to being on target.

Senator NASH—What do you mean by 'in aggregate'?

Dr Ashurst—Because it is a commercial environment, and there have been some changes. Some are going to be overperforming and some are going to be underperforming compared with those targets, but in aggregate they certainly look to be achieving their target.

Senator NASH—But if each of them has put in a target specifically for ethanol or biodiesel surely each of them would have to reach that particular target. Those who are underperforming could not just steal excess production from somebody else in order to overall meet the 89 million litres.

Dr Ashurst—There is no cash conversion between different companies or some taking it from others. These were best estimates they made in December last year, and some of them will be exceeding what they thought and some of them will be underachieving. At this stage, it looks as though the minimum target is certainly going to be exceeded—the best estimates the companies can make at this stage.

Senator NASH—So, when you talk about it being exceeded, are you taking into account those companies that have actually produced more than they said they would?

Dr Ashurst—Yes.

Senator NASH—So it is quite conceivable that a particular company could not meet their target and yet the overall amount could be met.

Dr Ashurst—That is correct.

Senator NASH—So are the targets that the individual companies put in specifically on ethanol and biodiesel available?

Dr Ashurst—No.

Senator NASH—Why not?

Dr Ashurst—There was a commercial arrangement between the companies and the government that they would not be disclosed, because it is commercial information that the companies would be loath to share amongst themselves.

Senator NASH—And that is understandable. But, taking that into account, there would be no reason why, out of the six-monthly review, the committee could not be provided with a total amount for the three major oil companies and where they are up to and a total amount for the independent companies and where they are up to for ethanol and biodiesel.

Dr Ashurst—I think you would need to take that up with Prime Minister and Cabinet.

Senator NASH—Flick!

Dr Ashurst—Sorry.

Senator NASH—But, in your view, it is not necessarily a policy issue. I will rephrase the question: the commercial-in-confidence issue relates, which I completely understand, to individual companies not wanting to disclose the amounts they are up to, doesn't it?

Dr Ashurst—Correct.

Senator NASH—So if you had a bulk amount being released for a certain category—say major oil companies or independents—that should not affect commercial-in-confidence?

Mr Pegler—I think we probably need to have a look at that and see to what extent it would keep those figures confidential while providing a sort of global figure. Sometimes the samples were so small that it is fairly easy to disaggregate and work out exactly who is doing what—

Senator NASH—The small samples are what worry me. Sorry; go on.

Mr Pegler—We can have a look at that and see what we can do.

Senator NASH—Good. If you could take that on notice and come back, that would be very much appreciated. Are you saying that we could get to the 89 million bottom of the target, have potentially no knowledge of who has done what and we could say the target was met—so, technically, one company could provide 89 million litres of biodiesel and we could say the target was met?

Dr Ashurst—The 89 million litres is an interim target on the way to the 350 by 2010.

Senator NASH—I understand that, but for the purposes of this year is that possible? Or, because the oil companies put in separate ethanol and biodiesel targets, does a particular amount of ethanol have to be part overall of that 89 million litre target?

Dr Ashurst—Conceivably, a single company could put in 89 megalitres of ethanol or biodiesel and meet the target single-handedly.

Senator NASH—I want to go on to ethanol excise and some figures that we asked Treasury for before. They were not sure if they were going to be able to provide them and they thought Industry might be better placed to provide them. So I am hoping Industry might be better placed to provide them. I would like, for the committee, the figures for the excise paid on ethanol for the last financial year, broken up into July to December last year and then January to the end of June this year.

Dr Ashurst—I think I am going to have to take that on notice.

Senator NASH—All right. They are figures that the department has readily to hand?

Dr Ashurst—Yes.

Senator NASH—How quickly could that come back to the committee?

Dr Ashurst—Within a week.

Senator NASH—Thank you.

Senator MILNE—I would like to return to coal to liquids. How would the adoption of coal to liquids or gas to liquids affect Australia's greenhouse gas emissions?

Mr Pegler—Clearly there are issues with the technology and it is going to depend very much on the technology that is adopted—whether you look at gas-to-liquids or coal-to-liquids technology that incorporates geosequestration, for instance, or not. It is going to also depend on

the particular technology and the particular feedstocks. So it is very difficult to answer that in a general way, because it is going to be very much plant, gas or coal, and it will be technology specific.

Senator MILNE—I understand what you are saying, but we are talking about putting a lot of money into an alternative transport fuel which will have greenhouse gas ramifications. What scoping work have you done to date on whether it is even responsible to begin to go down that path in terms of greenhouse gas emissions?

Mr Pegler—I guess there are a number of factors that might push you down the path of looking at gas-to-liquids and coal-to-liquids technologies. Greenhouse gas and environmental considerations are among those considerations, but there are a range of energy security and economic issues as well that would need to be taken into account. It is a question of balancing all of those in the final sum. But, clearly, looking at the environmental aspects will be part of that. Again, as I said, it is going to depend on the technologies. If you have got sequestration as part of the technology, clearly there are going to be net greenhouse gas gains.

Senator MILNE—The Centre for Low Emission Technology has said that even if the carbon capture and storage was 100 per cent successful the greenhouse gas emissions from the tail pipe of a vehicle running on coal to liquids is exactly the same as conventional oil. Therefore it is difficult to see the net gains that you are talking about. What input did the Australian Greenhouse Office or the Department of the Environment and Heritage have into your department's assessment before the Prime Minister's statement on coal to liquids?

Mr Pegler—I think the Prime Minister has foreshadowed that he is looking at the issues of coal to liquids and gas to liquids. I do not think he has foreshadowed any particular or specific initiatives or particular plants or options at this stage. When it comes down to an individual project we work very closely with the department of the environment on the environmental impacts. We work closely in putting those together. No doubt we will be consulting with them in looking to develop a package for cabinet's consideration, in terms of the foreshadowed statement.

Senator MILNE—I thought I heard you saying earlier that you are collating information from a range of departments when you are making these recommendations, but you are talking about the Greenhouse Office and DEH in the future tense not past tense. You have obviously been collecting data about coal to liquids from other sources; why haven't you been collecting data on coal to liquids and likely greenhouse gas ramifications—CO₂ ramifications—until now?

Mr Pegler—Senator, I did not say we had not been talking to them. We clearly have an ongoing working relationship with them, and have always had. We will continue that.

Senator MILNE—ABARE has indicated recently that carbon capture and storage is not likely to happen without regulation unless there is a charge for emitting carbon dioxide. We all know that that is not government policy. How responsible is it, then, to be promoting coal to liquids when it is not going to be economically viable without a price? And how responsible is it to promote it without regard to CO₂?

Mr Pegler—I do not think we are promoting it without regard to CO₂; I think CO₂ considerations are part of the total package. As I said, there are economic, environmental and energy security issues that all need to be taken into account. Clearly there is also the need to establish a regulatory framework for carbon capture and storage and broader aspects of that side of the technology, and we are working on that at this time.

Senator MILNE—On another issue that I would like to follow up from previous answers, when you were asked about what demand side management cost-effective studies you had done you indicated you had not done any or were not aware of any. Yet your department seems to support and promote expenditure on increasing the supply side. Does that imply that you have already formed a view about peak oil?

Mr Pegler—No, it does not imply that we have formed a view about peak oil. While we said that we were not conducting any specific studies into the demand side, we are aware of and actively engaged in work on demand side issues. There are a number of studies that get considered quite regularly in terms of demand side issues more broadly. The department has a large range of initiatives on energy efficiency, for instance. We have a number of energy efficiency programs; we also have a number of policy initiatives dealing with energy efficiency. So we have not closed off the demand side; it is not something we do not consider. When it comes to the road transport side, that is more a factor for the department of transport to consider. But, in the broader energy mix, the demand side is very important to us.

Senator MILNE—Which departments do advise government on whether peak oil should be a concern to Australia? Does your department?

Mr Pegler—We certainly provide advice to our minister on peak oil issues, and I know you had the Treasury in here before talking about peak oil issues and the economic aspects, so the advice to government comes from a number of quarters depending on the perspective that it is coming from. In terms of Australia's balance of trade or oil production, sure, we definitely provide advice to the minister and, more broadly, to government.

Senator MILNE—So what is your advice to the minister about peak oil?

Mr Pegler—I think that the peak oil debate is one that you can look at from many different perspectives. On one hand you have those that strongly advocate that peak oil is here. On the other hand there are a number of very good sources and advocates that suggest that peak oil is not as pressing a problem as some would suggest. We attempt to make sure that government is fully informed of those various views and from that sort of consideration, I guess, the new initiatives of exploration and the focus on seeking to redress Australia's world security and Australia's oil production have come.

Senator MILNE—That is why I was asking a question about cost-effectiveness of demand side reduction versus cost-effectiveness of increasing supply. You have obviously made a judgement that cost-effectiveness of increasing supply is acceptable but the same expenditure on demand side management may in fact increase your efficiency, might it not? We do not know that because the figures are not there.

Mr Pegler—I do not think that we have made that hard and fast assessment. As I said, we have a range of demand side initiatives in the broader energy field. There are a number of programs that the department manages and runs. There are a number of initiatives run out of other departments in terms of energy and fuel efficiency. The government's approach, and certainly our policy approach, is to look at the whole suite of measures on both the demand and supply side. We would say though that we do not believe that the supply side is going to solve it or that the demand side is going to solve it. You cannot look at them in isolation; it is the total package that is going to deliver the best outcome.

Senator MILNE—So in terms of the total package, you said that you provide advice to your minister on the sources that support peak oil and the credible sources that dispute peak oil. Can you tell the committee the authoritative official agency publications or anything else which show that peak oil is not a concern and rebuts the peak oil argument in detail? What authoritative sources do you use for that?

Mr Pegler—Probably the major source we would draw on is the International Energy Agency and the *World Energy Outlook* publication, which is an annual publication by that agency. The agency is an offshoot of the OECD so their analysis is seen as reputable and high class. They do not say that there will not be peak oil. What they do is point to a number of factors which say that perhaps peak oil is not a pressing concern that we need to immediately address. I think that everyone accepts that ultimately oil is a finite resource—it is just a question of when and how. Their annual publication goes for several hundred pages and into great detail on the likely supply of and demand for oil and gas, and that is probably the major source we would use in that sense.

Senator O'BRIEN—Could you give us an idea of the source of LPG? Currently, I understand, some comes from the refining of oil and some comes from our gas production. Can you give us some idea of how that breaks up at the moment and whether we can expect a greater reliance on our own gas resources to supply it?

Mr Wright—We would need to take that on notice and get you the statistics.

Senator O'BRIEN—I would appreciate that very much.

CHAIR—Senator Heffernan, do you have any questions?

Senator HEFFERNAN—The only thing that I am curious about is how much untapped potential there is downstream from our North West Shelf gas resource. It might be right out of your bailiwick, but how much value adding could we apply to the gases coming out of there that we are not doing at the moment—everything from methanol to fertiliser to whatever? In other words, I am asking about converting primary produce into some sort of secondary value-added product.

Mr Pegler—That is a very difficult question to answer, and it really depends on the commerciality of specific projects at specific times. Australian gas is not the world's cheapest in terms of cost production. It is very difficult for us to produce at a rate that is comparable with the Middle East—or Qatar in particular. So gas to liquids, some of those other sorts of downstream users, are more likely to go to those sites where they have a much lower cost feedstock.

Senator HEFFERNAN—Would that apply to Trinidad, who supply 73 per cent of liquid natural gas to the US?

Mr Pegler—Their cost of production is not as low as the Middle East either. Those industries—particularly the fertiliser industries which rely on very low gas feedstocks—are going to be located where they can get the best price in terms of the gas. As I said, Australian gas, certainly offshore gas, is quite expensive to bring onshore.

Senator HEFFERNAN—Do you have a buyers guide, as it were, of gas prices around the world—which you might like to table? I do not expect you to have those in the back of your head.

Mr Pegler—Gas prices around the world are fairly tightly commercially held. While we look at a number of public sources in terms of likely price, the best we can do is to guess or take what companies are willing to put into the public domain. But we can see what we can assemble from that for you.

Senator HEFFERNAN—Thank you.

CHAIR—Senator Nash—who had to leave, and she gives her apologies—asked me to expand the question that she asked on notice regarding some of those figures on ethanol. She asks: could that be divided into categories of the oil majors and the independents? Is that possible?

Are there any other questions?

Senator HEFFERNAN—What I was really after is this: it seems to me that there is a world cartel in fertiliser, and we are the suckers who are going to go along with it. I was just wondering how you got in under the bedcovers, as it were, of the producers of fertiliser globally. Obviously the gas has got a bit to do with it. That is what I was after, because I think we should bust the cartel.

Senator MILNE—I am interested in this oil exploration and cost of oil production. ABARE says that technological improvements have caused an increase in the success rate of oil exploration. Should we expect this trend to continue? If so, why? If it is right, why is there a declining trend in oil discovery? Do you have figures on the success rate of discovery in terms of per wells drilled, per foot drilled, per dollar spent?

Mr Wright—Certainly, the technology for exploring for oil and gas has improved dramatically, but that is fighting against another trend which is that you tend to find the biggest fields first. So it is possible to find small fields much more efficiently than in the past, and currently the discovery success rate in Australia is about 40 per cent: about 40 per cent of all exploration new field wildcats find some sort of field. In the Australian context, the commercial success rate is much lower, because a lot of these discoveries are up on the North West Shelf and may not be commercialised for some time. But the big discoveries, in Saudi Arabia and the Middle East generally and in the US, were done with quite primitive technology in today's terms, but the fields were so big you virtually could not miss them. So we can give you those figures per metre drilled and so on. We publish them in *Oil and Gas Resources of Australia*, which is an annual publication of Geoscience Australia. So we can provide you with that.

Senator MILNE—And further to that, ABARE says that technological improvements have caused a decrease in the cost of oil production. Do you expect that trend to continue and, if so, why? And will there come a time when there are decreasing marginal returns to further expenditure on improving rates of oil recovery?

Mr Wright—I would say that there is an improvement in technology, so that oil that previously could not be recovered can now be recovered. But certainly that does not necessarily translate into lower costs of production, and deep water is a typical example: you can find a lot of oil, it costs more to produce, and it depends on the price. On the trend: you are already seeing that there are some areas of the world that are becoming mature, and the North Sea is one of them, where additional expenditure is not finding a whole lot more oil. It is a big driver, and has been for some time, in the oil industry, that it goes in search of other provinces when the return on investment from staying in a given province is not good enough.

Senator MILNE—As we heard from Woodside this week, on the bight. My point here is that you might have improved your technology brilliantly but, as you say, what is being found is smaller and the costs of getting what you find, because they are in the deep ocean or whatever, are going up. Therefore, if we consider throwing more money at exploration as opposed to reducing consumption, there must come a point where one is no longer a feasible option compared with the other.

Mr Wright—Yes.

Senator MILNE—When you look at this, do you just keep assuming that if you throw more money at it you will find it?

Mr Wright—No. Basically, if we just look at the Australian context, for instance, the last really big world-scale oil discoveries in Australia were in the 1960s.

Senator MILNE—Exactly.

Mr Wright—There has been a lot of oil exploration since then that has discovered moderate to medium-sized oilfields; some of those can produce at high rates, but then their reserves don't last so long. There has also been a very large number of major, world-scale gas discoveries, and gas provides two things: it provides energy—

Senator MILNE—It is a transitional fuel.

Mr Wright—and it provides condensate, which is, I think, coming up to 30 per cent of our total crude oil and condensate production at the moment. But eventually you will run out of good prospects. That may take a long time in Australia, because a lot of Australia has not been explored, but in some other parts of the world the fields are clearly mature. You do not find a lot of new explorers going into some areas because it seems very unlikely that there are more significant discoveries to be made there. And oil companies are well aware of this—

Senator MILNE—Of course.

Mr Wright—and it is one of the reasons why some oil companies have merged—that they cannot see enough return on investment from their own exploration programs to justify continuing.

Senator MILNE—So do you think ABARE is over-optimistic in terms of its analysis that there will be a decrease in the cost of oil production?

Mr Wright—We cannot comment on the world situation; we can only comment on the Australian situation.

Senator MILNE—All right; on the Australian situation then?

Mr Wright—In the Australian situation, certainly, because smaller fields have been discovered since the big fields in Gippsland in the 1960s, the costs of development of those fields were incredibly low. You are talking around \$1 a barrel, in those days' terms. You will not see that again. So, in the Australian context, you certainly would have a different picture. But we do not know enough about the world market and the world supply and demand to say that.

Dr Foster—I think it is important to repeat something that I said last time we appeared here: Australia actually has less than 9,000 wells on and offshore. And while I agree with my colleague on the more mature areas, the whole purpose of the frontiers program is to look at areas where no drill bit has ever gone—so the capacity is yet to be tested. And those areas will, in fact, test the biggest structure first.

Mr Wright—To give that some context, there have been about three million wells drilled in the United States of America, which has approximately the same land surface area—

Dr Foster—As opposed to our 9,000.

CHAIR—We are done. Thank you very much.

Proceedings suspended from 12.25 pm to 1.18 pm

GUNASEKERA, Dr Don, Branch Manager, International Branch, Australian Bureau of Agricultural and Resource Economics

LOVE, Mr Graham, Section Head, Energy Projections and Analysis, Australian Bureau of Agricultural and Resource Economics

PENM, Dr Jammie, Acting Chief Commodity Analyst, Australian Bureau of Agricultural and Resource Economics

ROSS, Mr Paul, Branch Manager, Energy and Minerals Branch, Australian Bureau of Agricultural and Resource Economics

SCHNEIDER, Ms Karen, Deputy Executive Director, Australian Bureau of Agricultural and Resource Economics

CHAIR—Welcome. I know you have all been before Senate committees before so I do not need to read out the information on parliamentary privilege. I invite you to make an opening statement, if you wish.

Ms Schneider—We will not make an opening statement because we did so the first time we appeared before this committee.

Senator O'BRIEN—A large part of Australia's economic prosperity depends on mining and agriculture, both of which are quite energy intensive and large users of liquid fuels. Is it fair to say that ABARE would agree that the competitiveness of these sectors is likely to be affected by sustained high oil prices or a disruption of supply?

Dr Penm—The oil price rises are faced by all countries in the world. In Australia fuel costs account for a bit under 10 per cent of farm costs in total. So, naturally, higher oil prices causing higher fuel prices will adversely affect our farm sector. That is an issue faced not only by Australia but also by all the major oil importing countries.

Senator O'BRIEN—We are very dependent on world prices. I wondered whether there would be some disproportionate effect given our reliance on exports and lack of subsidies compared to some markets.

Dr Penm—Certainly us oil importing countries are subject to fluctuations in oil prices. But even in some countries that do produce oil for domestic consumption the costs will also increase because, if they can sell to the world markets, they will not reduce their prices for the domestic market. The issue you are raising is really with regard to domestic policy in terms of petrol prices and so on. For example, in China domestic petrol prices are set by certain authorities and therefore may not necessarily reflect the movements in world markets. So certainly in that respect our farmers will face whatever the world price fluctuations are.

Senator O'BRIEN—I understand their motor vehicle fuel prices are around a dollar a litre in our terms. Does that simply reflect the different taxation arrangements?

Dr Penm—Naturally that also increases the burden for the government in terms of fiscal expenditures and that is an arrangement that China and some South-East Asian countries have in place.

Senator O'BRIEN—What does your recent national and state outlook to 2030 assume about oil prices and international supply?

Dr Penm—We forecast that oil prices will average around \$US69 a barrel in terms of West Texas intermediate crude for 2006. We forecast that prices in 2007 will be marginally lower and we project that prices will gradually ease over the medium term to 2011. The underlying reason for these forecasts and projections is that we see there will be a significant supply response both in the production of oil and also in alternative sources such as gas to liquids, coal to liquids, oil sands and so on. That will underpin a supply response over the medium term which in our view will put some downward pressures on world oil prices.

However, I need to stress that ABARE's forecasts do not take into account unforeseeable events such as adverse weather conditions affecting oil production, increases in geopolitical tensions and so on. Our forecasts are based on demand and supply fundamentals, and we cannot really factor in any unforeseeable events.

Senator O'BRIEN—So, given we are only a small part of the world market, certainly in terms of replacement by gas to liquids and coal to liquids, where is it likely that those conversions will have the greatest impact on the market? Are we looking at Europe, the United States, North Asia?

Dr Penm—We know that in the Middle East, especially in Qatar, with gas to liquids, they have committed to projects to increase production. Based on the International Energy Agency's projections, gas to liquids will increase quite significantly by a magnitude of around 2.5 million barrels a day by 2030. Recently in the United States a number of projects have been considered which would use coal to liquids. The United States has little scope for using gas to liquids because of its significant demand for gas, and also there is the issue that gas prices are linked to oil prices.

In Qatar the situation is that they have a significant reserve, so they can convert gas into liquids at a relatively cheap production cost compared to other countries. But in the United States there is evidence to suggest that they are considering coal to liquid technology. Based on the US National Coal Council's projections, it is expected that by 2025 about 10 per cent of fuel consumption in the United States will be coming from coal to liquid production, but naturally that is a projection and a goal they are trying to achieve.

Senator O'BRIEN—But you think that by 2011 this production of gas to liquids and coal to liquids will impact on the price of oil based fuels?

Dr Penm—In terms of the total world oil consumption, those alternative resources are still taking a relatively small percentage compared with oil. But we also see there will be a significant supply response from oil-producing countries because of high oil prices. For example, the capital investment in the oil industry is estimated to increase by about 20 per cent this year. That is a similar growth rate to the one that happened last year and it follows an

increase of about 14 per cent in 2004. So we have seen quite a significant investment in the world oil industries and we expect that a supply response will happen over the medium term, and that should, together with alternatives—for example, biofuels and others—provide downward pressures on world oil prices.

Senator O'BRIEN—Would it also be fair to say that it may be that it only produces a brake on the rate of acceleration of those prices?

Dr Penm—We need to look at the demand and supply fundamentals. It is perhaps fair to say, just by observations of recent price movements. For example, not long ago we were looking at \$US78 a barrel for oil because of tensions in the Middle East, and today we are looking at \$US70 a barrel because of a resolution of that event. So perhaps there is an element of risk premium built into current prices.

Also, information provided by the US Geological Survey indicates that by 2025 the so-called proven oil reserves in the world will actually be double the size of the current proven reserves. We see that there is little scope for the supply side constraint to come in over the foreseeable future, so that is forming our projections over the medium term.

Senator O'BRIEN—Where are these additional oil stocks going to be found? Did they indicate that?

Dr Penm—In almost all of the major producing regions in the world. They basically have two components. One is that the current known reserves will grow because, once we dig more into those fields, we usually find other deposits of oil. They also factored in a projection for what will be recovered during the period. Another thing worth mentioning, naturally, is technological improvements. Over the past few decades we have seen improvements in extraction and exploration technologies, and we are actually getting more petroleum products out of a barrel of oil. Another thing is that, in the world economy, the oil dependency in the OECD countries, for example, is gradually declining in terms of per unit of GDP. All those factors would suggest that, under the assumption that there are no unforeseeable events in terms of geopolitical tensions, there will be downward pressure generated by the supply response.

Senator NASH—When you were talking about the oil supply you mentioned two things. One was extending the existing reserves. The second thing was about what will be recovered. What do you mean by that?

Dr Penm—Basically, what the US Geological Survey said is that, when exploration expenditure increases and so on, we are likely to find more oil that currently is not included in the category of proven reserve. The proven reserve means that, given the current prices and given the current technology, we can economically put those reserves in production. It is a projection produced by them saying that, through technological improvement, more exploration and so on, they project there will be more oil that can be included in the proven reserve.

Senator NASH—So they are saying that they think they will find it. But isn't that just an assumption? If it is unknown and they do not know it is there, how can they assume it is there?

Dr Penm—Certainly all the forecasters face the uncertainty about the future. But, using past history, evolving trends and so on, we can make a certain judgement. Naturally they are forecasts, or projections; they are not precise predictions for the future.

Senator NASH—Isn't it a bit like digging for gold? When you dig for gold you might think, 'There is some gold in the ground here, so if I dig a bit further I am pretty sure there will be some out there,' but at some point there will be no more gold.

Ms Schneider—I think there are probably more technical assumptions than that underlying it. I cannot answer this question fully—

Senator NASH—That was definitely not a technical assumption, but do you get my point?

Ms Schneider—Yes. Geoscience Australia could answer this question, but I think it is based on their knowledge of the basin structure and size in the first instance.

Senator MILNE—I have a specific question on the reserves issue that you mentioned. When you talk about the proven reserves, are you assuming that the Saudi Arabian figures for their proven reserves are accurate, given that we have had quite a lot of advice to say that the Saudis have in fact doubled what they actually have and their figures are not to be relied on?

Dr Penm—I am not a geologist, I am not a petroleum scientist; I am an economist. What I said above is the information provided by internationally renowned organisations and we use them as a reference. If the information is not correct, then certainly that will impact on everyone's forecast. I cannot provide an answer to your question, because that is really outside my field.

Senator O'BRIEN—I think you said that with the current prices for oil, exploration is being encouraged. Given that, is it not fair to say that if the decline in price that you envisage occurs then exploration will drop off, projects will be mothballed and the expected growth based on assumptions of exploration at current prices will not be achieved? It is a chicken and egg situation: if you have got high prices, people explore because they think that even though their costs are higher they can still make a buck, but if the predictions are that the price will decline, won't that be a barrier to the investment that you are talking about?

Dr Penm—You are talking about business cycles, basically. For our projections, we only look at the next five years. That is for our medium-term projections. Usually, when oil projects are committed, it goes beyond our medium-term projections. The reason why we call the medium-term numbers projections is that we do not factor in the business cycles and so on. But even for the longer term it is very difficult to predict business cycles, so we usually call our longer term numbers assumptions.

Senator NASH—You forecast that the oil prices will remain high in 2006 and then decline in the medium term. What are the factors that you base your assessment of the decline on?

Dr Penm—Supply response, because current higher prices have already generated increased capital investment and exploration activities. We expect that oil production will respond to

higher prices. In the foreseeable future that we are talking about, five years down the track, we may see an increase in world oil production, and that will place downward pressure on oil prices.

Ms Schneider—But that still does not mean, Senator, that we do not take account of the fact that there might be short-term factors—political instability, factors that we cannot forecast—that will have an impact.

Senator NASH—So, as the general observation forecast, if those things are taken into account then this should be the trend.

Dr Penm—Yes.

Senator MILNE—I apologise for being a few minutes late at the beginning. In answer to the question about what is the likely economic impact of higher oil prices, particularly on our mining and agricultural sectors, I understand that your response was along the lines that everybody across the planet working in those sectors will be experiencing the higher prices and therefore there is a similar impact. Where I am coming from here is that Australia is an agricultural producer. In some markets we are competing with Brazil. Higher oil prices give every agricultural producer in Brazil an economic advantage over Australian producers as oil prices rise because they have made a decision to reduce their dependency on oil. You said a minute ago that the OECD had reduced their dependence on the oil, which means that all of their farmers become increasingly competitive as the oil price rises because they have put in place measures to reduce dependence. Do you accept that, in fact, the relative impact of high oil prices on an economy like Australia will depend on the extent to which our competitors have become more efficient?

Dr Gunasekera—Competitiveness depends on a number of factors. Oil price is one factor, but we know that we have a comparative advantage in producing agricultural commodities. We are only second to New Zealand in terms of international competitiveness in agricultural production. Issues such as increasing oil prices and increasing prices of other inputs are faced by many agricultural producing countries, including ourselves. If you look at our agricultural productivity growth and broader efficiency indicators of agricultural production, we are in a fairly strong position to compete with many agricultural producing countries in the world. You are correct that Brazil is an important competitor. But at the same time Brazil and Australia, as part of the Cairns Group, are also facing agricultural protection imposed by the European Union and the United States. The oil price increase is a difficult issue. However, we are strong in our comparative advantage to perform pretty well as an efficient agricultural exporter.

Senator MILNE—I am not comparing our competitiveness on other issues; I am comparing it purely on the cost input of fuel to productivity out of the agricultural sector in particular and also in the mining sector. Let us put aside all those other things. If we were more competitive in fuel then our competitive advantage would be a lot greater than it currently is. It is relying on everything else to maintain it. Have you had a look at Australia's main trade competitors sector by sector, looking at the relative efficiencies they are achieving in reductions in fuel consumption, in relation to this issue of oil?

Dr Gunasekera—We have not done any research into that aspect. But I want to stress again that oil price is one aspect in the broader agricultural production process.

Senator NASH—What the senator is getting at is, all things being equal, if a farmer or a miner in Australia is having to cope with increased costs of fuel as an input whereas in competing countries they are not having to face that increased cost of fuel—indeed, bringing it down by alternative methods in some countries—does that not make them more competitive?

Ms Schneider—We have not done any analysis of that. We have not done any analysis of the energy intensity of our agricultural sector versus other agricultural sectors.

Senator NASH—That would be quite interesting.

Ms Schneider—It could be, yes—I cannot answer that. I would just note what Dr Penm said: energy is 10 per cent of farm costs. So, yes, it will have an impact on competitiveness, but it may not be the overriding impact on competitiveness. While European economies and other economies have become more energy efficient, I suspect that our sectors have become more energy efficient as well. You would need to do that comparison at quite a detailed level before you could really answer that.

Senator NASH—What have our sectors done that have made them more energy efficient?

Ms Schneider—I do not have any specific examples. I am just saying that I assume that, with rising prices, most users of energy have become more efficient. I do not know if any of my colleagues knows anything specific?

Dr Gunasekera—Research done by the International Energy Agency and various other organisations indicates that since the 1973 oil price increase, overall, OECD countries have improved or increased their energy efficiency substantially. That has been a trend for a long period of time—since 1973. That trend has been continuing in most OECD countries. That is a general observation made by a number of commentators.

Senator MILNE—Where does Australia fit into that oil efficiency in the OECD? Are we at the bottom end?

Dr Gunasekera—I cannot comment on that. I do not have the information in front of me.

Senator MILNE—Would you be able to provide to the committee information about Australia's comparative position in the OECD on energy efficiency in the agricultural and mining sectors—the whole primary industry sector?

CHAIR—And the other thing, of course, where oil comes into agriculture is in inputs—fertiliser. So while fuel costs may be 10 per cent, fertiliser is another huge cost. If increasing oil prices impact on that, that is another significant cost input.

Ms Schneider—To the best of my knowledge, the IEA and the OECD have not done that sort of analysis at a very detailed sectoral level. We can look to see whether that analysis has been done, but I am not aware of any analysis of the agricultural sector. One thing that I think you would find, if you had any data available, is that fuel consumption by farm machinery has probably declined quite significantly. I think I remember Senator Heffernan at the last hearing saying that his new tractor, for example, consumed far less fuel and it had a much larger

capacity. So I think that sort of data would indicate that there have been efficiency improvements.

Senator NASH—I have no doubts about Senator Heffernan's ability to buy a new tractor!

Dr Gunasekera—I just want to stress that my comment about the improvement in the energy efficiency was a broad statement. The studies I have seen are basically at the overall level—that is, let us say, per dollar of GDP the amount of energy used has declined over time in many OECD countries. It is at a very aggregate level. I just want to stress that point.

Senator MILNE—What I am saying essentially is this: because your assumption is that there is no problem with supply and the additional supply will come on stream, the analysis is not being done specifically on the competitiveness of Australian industry in relation to its overseas competitors, commodity by commodity, with increased oil prices. If you were to take the reverse view, that oil supply was running out and oil prices were going to go considerably higher in the next five years, that may well change the way you do your analysis in terms of those agricultural sectors. Would that not be the case?

Ms Schneider—I think the same points would still apply. Other economies would be facing similar increases in international oil prices. How those international oil prices filtered through to the agricultural sectors is another question, but there would always be pressure coming from increases in oil prices.

CHAIR—For example, in Brazil the fuel they use is ethanol. Other countries, we know, have taken stronger steps to replace traditional oil supplies. Will that not therefore make Australia less competitive, because we have not made those moves, than other countries? Forget any fuel-efficient moves that we have all collectively made.

Dr Penm—Brazilian ethanol can also be exported to a world market. If oil is an almost perfect substitute to ethanol then I think ethanol producers will also sell ethanol at very high prices should oil prices continue to rise. Especially over the longer term, perhaps, the assumption that oil prices and other substitutes or alternative sources would diverge significantly does not seem to be one that can be made on reasonable grounds. That substitution will happen and no-one will sell ethanol at the relative lower prices compared with petrol prices.

Senator NASH—Where does the cost of production compare with barrel price? What is the break-even point for the production of ethanol as compared to the cost of oil?

Mr Love—As part of the Biofuels Task Force report we did some analysis on that. I might have referred before to a particular diagram in the report, in chapter 6—the economic chapter. It is possible to use that diagram more or less as a ready reckoner and to read off what oil price is associated with a break-even cost of production. From memory, at an exchange rate of something like 75c, you would need an oil price of around \$US55 a barrel, West Texas, to break even on the production of ethanol using sorghum or C molasses.

Senator NASH—That potentially may well change if we go a lot further down the road with lignocellulose and those types of things.

Mr Love—Exactly. The assumption that we made for the sorghum price in that analysis was \$152 in real terms. If you were to be able to get a feedstock which—

Senator NASH—I am sorry to interrupt, but did you do it on wheat and sugar as well or just sorghum?

Mr Love—We did it on wheat. There is not much point doing it on sugar. We did it on C molasses. That is the cheapest source of sugar. We did not do it on sugar per se. C molasses comes from the third pressing of the cane. It is the cheapest way you can get it. So there is not much point doing it on more expensive forms of sugar.

Senator NASH—What was the price per tonne for wheat that you used?

Mr Love—Again we used the price for feed wheat and again we assumed the same price as sorghum which was \$152 per tonne. You certainly would not be using good quality milling wheat to produce ethanol.

Senator NASH—It is awfully high, I would have thought.

Mr Love—What we are looking at there is an attempt to analyse the economics in the medium term. This is a medium-term price. If we take our projected price for sorghum for the 2006-07 season for example, it is actually \$177 per tonne for sorghum for the current season.

Senator NASH—True. But we do not do any out of sorghum here, which is why I am particularly interested in the wheat value.

Senator MILNE—You say that Australia's oil consumption is predicted to increase at two per cent per year from 2003-04 to 2029-30. Can you tell us the current assumptions about world price and supply which are behind that forecast?

Mr Love—In all of our models we use the same set of oil price assumptions. So, as Dr Penm explained earlier, up till about the year 2011 we are looking at forecasts and beyond that we are simply using oil prices which are assumptions. We are not attempting to forecast them at that time. In the particular long-term analysis that we have done the oil price that we used was the same as has been used in the other modelling analysis. With the long-term oil price, I think Dr Penm might want to comment on what the standard assumption is.

Dr Penm—In making our longer term projections we have an assumption of \$US40 a barrel or around that. The reason is we see substitution, for example, coal to liquids, will come into that and we are using that as a basis for longer term projections. Naturally, as I mentioned earlier, we do not factor in business cycle type movement. We are basically assuming in real terms, in 2006 dollar terms, that longer term prices will be around that level.

Senator MILNE—So where do you get the two per cent a year from?

Mr Love—That is two per cent growth in the consumption of petroleum products overall in Australia. The way we actually get that is through some econometric work which relates a growth in consumption to basic drivers such as activity variables, the growth in GDP and

adjustment to prices as well. In these particular models that we do we actually find that the growth in GDP is the basic driver. If you have a higher rate of GDP growth then that tends to drive your level of consumption at a higher rate. With a lower level of GDP growth, it is driven at a lower level.

For those particular projections that we did last year, the rate of GDP growth that we assumed over the long term in that analysis was something of the order of three per cent per year. We include an increase in energy efficiency—and there has been some work done on that—and that is assumed to be something of the order of one per cent a year. You take the three per cent growth and take off the one per cent and arrive at roughly a two per cent growth in consumption.

Senator MILNE—Can you provide the committee with the work that you have done on that energy efficiency figure of one per cent?

Mr Love—We certainly can.

Senator MILNE—Is there any thinking in ABARE that it might be a good idea to increase the energy efficiency to two per cent and therefore leave only a one per cent increase in dependence on oil?

Ms Schneider—We are able to do that sort of analysis. That would be an additional scenario that we would be able to run. We do this work for the Department of Industry, Tourism and Resources. If that is a policy issue that they are interested in exploring, that is the way we can go about it.

Senator MILNE—The problem we have here is this: we had the department of industry in here this morning and they said that they rely entirely on ABARE. When we say to Treasury, ‘What do you do?’ they say, ‘We rely entirely on ABARE; go and ask ABARE.’ When we ask ABARE, they say, ‘We’ll do it if the department of industry tells us to,’ and so we go round in circles. What we cannot get from anyone is who is driving the policy analysis. Who is saying, ‘Go and look at these scenarios’?

Ms Schneider—The policy agenda is driven from the departments. We respond.

Senator MILNE—Which department drives the policy initiatives? Is it the Department of the Prime Minister and Cabinet? Is it Department of Industry, Tourism and Resources? Who drives the policy that you all then go and do the scenario modelling on?

Ms Schneider—Our work program comes from the Department of Industry, Tourism and Resources. We prepare our energy projections and our commodity forecasting work for DITR.

Senator MILNE—Energy projections. What was the other one?

Ms Schneider—Energy commodity forecasts, not agricultural forecasts.

Senator MILNE—And those are commissioned by the Department of Industry, Tourism and Resources?

Ms Schneider—Yes.

Senator MILNE—Okay. What does your recent national and state outlook to 2030 assume about oil prices and supply?

Ms Schneider—That is the report that we have just been discussing. Shall we give a quick recap of the short and medium term, and then the assumptions in the long term?

Mr Love—In terms of the oil price, we are assuming that the underlying oil price, as Dr Penm mentioned, will in the longer term be, in current dollars, about \$US40 per barrel for West Texas oil.

Senator MILNE—In relation to peak oil, peak oil activists such as ASPO have criticised optimistic establishment estimates of future oil supply with fairly detailed and quite plausible arguments, like the one I put to you before about the Saudis doubling their active reserves. They also talk about estimates of future discoveries being implausible, as Senator Nash was referring to earlier. The evidence we have had is that exploration is getting more expensive for a lower return—smaller fields and so on. That has been the historical trend in recent times. Given that you have the exact opposite analysis and say that peak oil is not a concern and that the supply is out there and that it can be found with reasonable expenditure, can you direct us to an authoritative official agency publication anywhere which shows why peak oil is not a concern and which rebuts the peak oil argument in similar detail to the arguments to the contrary?

Dr Penm—Naturally, in terms of our forecasting, I cannot really say that there is an authority that everybody will follow. But international organisations such as the International Energy Agency in its latest report specifically say that oil supply will not be constrained towards 2030—that is the end of their projection period. Similarly, the US Department of Energy in their projections make the same statement, that they do not expect that oil supply will be an issue in the foreseeable future. So all I can say is that those organisations share the view that, at least in the foreseeable future, oil supply is not an issue.

CHAIR—I want to follow up on a couple of things. My understanding from ABARE's projections is that, even if oil supplies become a problem and costs rise to a certain point, alternatives will kick in and will have to kick in at a certain price. Therefore, oil or the alternative will always be at that price or above because if it goes below then the alternative becomes uneconomical. Have you done any calculations for what impact that will have on the economy?

Mr Penm—As I mentioned earlier, in terms of coal to liquid technology, \$US40 or around that level will be the viable economic price to take that up.

CHAIR—That is excluding the cost of carbon.

Mr Penm—I have to say I am not a petrochemical scientist, but there are international studies that indicate that, even including carbon capture and storage in the configuration, \$US40 to \$US45 a barrel would cover the cost for coal to liquid.

CHAIR—Can you provide us with the source of that information?

Mr Penn—It is a publication from Princeton University that gives that indication. I can certainly provide that to the committee.

CHAIR—Are you aware of how quickly alternatives like that can be brought online?

Mr Penn—I mentioned earlier gas to liquids. It is projected that in the next five years production will increase significantly in the Middle East. Also the US National Coal Council projects that by 2025 about 10 per cent of US fuel consumption will be covered by coal to liquids in the United States. As I say, those are the projections.

CHAIR—Are you aware of the Hirsh report, which the US energy department commissioned? The Hirsch report included the comment that there will be a significant lag period for getting alternatives on board?

Mr Penn—As I said, our medium-term projection for the next five years is really based on the fact that there will be a substantial response in oil production. I also mentioned the gas-to-liquids project. That is a committed project that it is known will go ahead, released by international energy agencies. So we factored the information into our projections and we came up with our forecasting exercise. I presume that over the longer term the so-called lead-time issue will gradually subside because in the longer term there will be more response from alternative sources.

Senator MILNE—You say that the APEC Energy Working Group has proposed policy responses to reduce dependence on transport fuels. Does that include demand-side management?

Ms Schneider—I would have to go back and look at the report that we reviewed there. I cannot answer that right now, I am sorry.

Senator MILNE—I would like to know if it does include demand-side management and, if it does not, why it does not. Is it assumed, for example, that providing greater supply is more of a cost benefit than demand-side management? That is what I am asking you.

Ms Schneider—I can check what the APEC Energy Working Group has done in that regard, but I am not sure if I could answer, if it is not there, why it is not there.

Senator MILNE—Have you done a cost-benefit analysis on implementing demand-side management compared with increased supply?

Ms Schneider—We have not done that work. We did some work for the APEC Energy Working Group, but it was not around that issue.

Senator MILNE—Is anybody in government, that you know of, looking at the cost-benefit analysis of reducing demand compared with increasing supply?

Ms Schneider—I am not aware of any work on that issue.

Senator MILNE—Across government?

Ms Schneider—I am not aware of it, no.

CHAIR—Can I go back to this issue of producing alternatives and the cost of them and the paper that you referred to that came out of Princeton. That presumably looks at the cost of geosequestration and/or a carbon tax. Is that a correct interpretation?

Dr Penm—They are not looking at carbon tax issues. They are looking at building conversion plants and building configurations of carbon storage and capture.

CHAIR—What price do they put on carbon storage and capture?

Dr Penm—I cannot tell you without looking at the paper. I will supply the paper to the committee.

CHAIR—Okay. That is the first time that I have heard that that could be done so cheaply. Other evidence that we have had before the committee puts a substantially higher cost on carbon sequestration in Australia.

Dr Penm—Sorry; that paper I referred to is not an Australian study; it is a US study.

CHAIR—I am interested to know, therefore, whether you have looked at the costs that they are predicting for Australian production for coal to liquid, for example.

Dr Penm—I am not aware of any Australian study. I do not know whether my colleagues can help on this issue. I am certainly not aware of any.

CHAIR—So the projections you are making at the moment are based on one study coming out of the US?

Dr Penm—No. Certainly it is not just one study out of the US. There are many studies looking at alternative sources and so on. Production costs for alternative sources also depend on where the production facility will be built. In China, in Inner Mongolia, they are also building coal to liquid plants. As I mentioned earlier, there is a significant interest in the United States. For gas to liquids, naturally Qatar is a place that most of the investors are interested in. So the costs will certainly vary, depending on the production facilities and so on. What we have used for our medium-term projections is really a summary of what possibly will become the cost for alternative resources. Another thing is that we also look at what has happened since the 1970s in terms of oil price movements. We had an oil price shock in the 1970s and early 1980s. The average price in 2006 dollar terms is about \$US35 a barrel for the past three decades. That also provides some idea about what kinds of price projections we are using for the longer term.

CHAIR—Thank you very much. There are no other questions. If you could provide that additional information, that would be appreciated.

Dr Penm—Sure.

[2.19 pm]

McINTOSH, Mr Lauchlan, Executive Director, Australian Automobile Association

METCALFE, Mr John, Director, Research and Policy, Australian Automobile Association

CHAIR—Welcome. These hearings of the Senate Rural and Regional Affairs and Transport Committee are public proceedings, although the committee may agree to a request to hear evidence in camera or determine that certain evidence should be heard in camera. All witnesses who give evidence to a committee are protected by parliamentary privilege. It is unlawful for anyone to threaten or disadvantage a witness on account of evidence they have given to a committee and to do so may be treated as a contempt of the Senate. It is also a contempt to give false or misleading evidence. If you object to answering a question, you should state the grounds upon which the objection is taken. The committee may determine that we want you to answer, and then you may request that we go in camera. I invite you to make a brief opening statement, and then we will ask you some questions.

Mr McIntosh—Thank you for this opportunity. The Australian Automobile Association is appearing before the committee as a consumer body. It is probably one of the largest consumer groups or NGOs, as a consumer group, in the country. About six million people belong to motoring clubs across Australia. The clubs, as mutual organisations, spend a lot of time working on the issues that relate to motoring, tourism and transport generally that members are concerned about and also provide a range of service to those members.

We, in the national body, are entirely dependent on the individual clubs for expertise and activities. We represent them at a national level and in national activities. We undertake some independent research that is separate from them, but we work with them in those sorts of situations and advocate on their behalf.

This inquiry into the future fuel supply is certainly timely. I guess it has always been a matter of concern and interest to us. We know that member motorists are highly dependent on their cars. They are sensitive to increases in the price of fuel. They are moderately concerned, on average, about the impact of their cars on the environment. They are certainly very supportive of technological changes and improvements to address the environmental impacts of their cars. They are always keen on alternatives, be it in cars, passenger or public transport. However, we have found from the national surveys that we undertake that, in the end, most people are personally very keen to stay mobile for themselves and by themselves.

We recognise that Australia has been very fortunate over the last 30 years in being dependent on fuel from Australia. We recognise that, on current indications—and I am sure you have heard this from Geoscience Australia this morning—unless we find some more reserves, there will be some reduction in oil in the future. I was looking at those figures only this morning. I started my working life as a sedimentary geologist at the time we started to find oil in Australia. I stayed in the geology business for some time, and I have now turned into being an advocate of the motorist. I understand these issues and recognise their complexities.

We are concerned that options for improving fuel efficiency do not seem to be adequately taken up, particularly by car manufacturers. To a certain extent, that is because motorists are not being demanding enough about that being done. We have to be careful: we represent the motorists. We cannot tell them what to do; they tell us what it is they want to do.

There are some other ways in which leadership can be shown. We have looked at government leadership in areas of safety in particular, and perhaps in environmental performance the government has an opportunity to look at how the fleet may be managed. Our clubs are very active in the area of encouraging fuel-efficient driving. I think all the clubs and their websites have information on how to save fuel and certainly their technical advisory group is involved. Those people are regularly involved in talking to people about ways to improve their fuel efficiency.

We have been doing some work with Bridgestone, for instance, on a safety program, Think Before You Drive, and yesterday in Adelaide we had a meeting with Bridgestone Australia. They reported that some studies in Europe have shown that maintaining correct inflation in tyres makes a huge improvement in fuel efficiency. So there are quite simple things that ordinary people can do, that they tend not to do, which would make a difference to our total fuel use and therefore have an impact on fuel efficiency and, as a result, the reserves and our requirements. We recognise there is potential for alternative fuels. I think we wrote this submission in March and it is interesting to see that we made the point there about the importance of LPG, and it is pleasing to see that the government has made some moves to encourage LPG into the market.

We still believe, though, that the pricing mechanism for fuel is not very appropriate. We think that fuel tax is a very blunt road-user charge and that there are better ways to fix that. Again, that would probably enhance fuel efficiency. It is probably not for this inquiry, but I think it is important that people recognise that the current fuel taxes are very blunt, subsidies are equally as blunt and the whole process gets more distorted the more you distort it. In the longer term we would see it as being really important to get into proper fuel-pricing reform, which we have suggested many times.

We think there is an opportunity long term for alternative fuels. Most people are probably aware of CNG and LPG. Hydrogen is a long-term possibility. Again, I think distribution will be very difficult for hydrogen, but we certainly should be looking at it. Gas to liquids is very important. I think gas and LPG together, or methane and LPG together, have a great potential. There are many possibilities in storage of fuel that are yet to be researched. We think that those sorts of options can be considered. Certainly, biofuels in a range have a place, hybrid cars have a place but, in the end, the reality is more than likely that we will be using petrol and diesel for a long time into the future.

My understanding is that the world has about 40 years of reserves at the moment. All my life, I think we have had 40 years or 30 years of reserves in front of us. The question has to be asked: why would someone find any more when they cannot sell it at that time, anyway? It is certainly a very important issue. Pricing is an issue that impacts on fuel and its use and technology is important. There are technologies in transport management and intelligent transport management generally that will be very important in improving efficiency. We have covered most of that in our submission. I have probably covered most of it in a waffling way, but I am more than happy to answer any questions or for Mr Metcalfe to add anything to that.

Senator MILNE—The first thing I want to take up is ecodriving—teaching people to drive in a way that maximises fuel efficiency. It is not something that is generally part of driving education courses. Safety is obviously a mandatory component of driving education courses but fuel efficiency is not. Does your association have a view about making it mandatory for driving courses to incorporate fuel efficiency, in addition to safety?

Mr McIntosh—My understanding is that many of the driving courses do actually encourage smooth and efficient driving as an integral part of those activities. I think there is a plethora of driving courses, and that is an issue we are working with the government on, particularly for safety, right now. It is a good point. There is a program in Europe which our motoring clubs run, which we have discussed here, called Eco-driving. Certainly from my understanding ecodriving is included in what I have been discussing with some of the driving instructors. But I would not say it is mandatory or compulsory and it is certainly not top of mind.

Mr Metcalfe—Our clubs publish magazines, and with the six million members they have they are widely read. They go to all the members. Eco-driving is about the need for smooth acceleration, reduced weight and the impacts of air conditioning on fuel economy. All of those factors are often referenced in the club magazines to tell you how to save fuel.

Mr McIntosh—I know the RACV has an ecodrive program once a year where they hand out rewards and encourage those things. Various clubs at different times have been sponsors of the various solar challenges, again because there is member interest in that total activity.

Senator MILNE—I am thinking more particularly about young people. Most young people now would do at least some of their driver training through an accredited course, and it seems to me that beginning people's driving experience with that in addition to safety would be worthwhile. The next thing I wanted to ask you about was tying car registration fees to fuel efficiency. That is how it is done in the UK, and that of course encourages people to buy more fuel efficient vehicles because the registration fees are considerably cheaper. Has your organisation got a view about that?

Mr McIntosh—Yes. I cannot tell you in how many states, but the registration fee does reflect that. The registration fee is much higher for V8 motor cars in some states than for smaller cars.

Mr Metcalfe—As Lauchlan says, it does vary from state to state, and in some states the engine capacity is a factor that influences the car registration fee. But there is scope from a fuel efficiency point of view to reflect that in car registration fees.

Senator NASH—Has that always been the case or has that come in over time? When did that start?

Mr Metcalfe—I think in some states it has been the case for some time that there is a link between the registration fee and engine capacity.

Mr McIntosh—I think there have been some substantial increases in New South Wales, from memory, fairly recently. But again the issue is that the registration fee is probably not a major component of the cost of running your car. That is where we see that the whole tax on motoring

is distorted. We have proposed a different access fee and a road user charge, which would be more reflective of those things.

Senator MILNE—That is what I was going to get to next. In Sweden, when they moved to a carbon tax as a fuel tax, they took off all existing excise. So then essentially the fuel tax was based on the carbon intensity of the fuel, the vehicle and so on. My frustration with the recent announcement by the states in relation to a carbon-trading scheme was the projection that it would double the price of petrol and so on without recognising that there could be cost neutrality if you took off all existing excise. What is your view of having tax reform in the sense of removing excise and bringing in a carbon tax to reflect that?

Mr McIntosh—I think there are probably two questions in one. We have always been keen to do away with the excise and to introduce a road user charge which would reflect the costs of motoring. It would reflect a few different costs but certainly safety, road use itself, the cost of the trauma and environmental costs, however defined. Whether you want to define those in a carbon tax, an emissions usage or whatever, I think that is the case. We have done quite a lot of work on the current numbers and we can show, and have shown in many submissions, that the motorists are already paying a very substantially high carbon tax in the 38c a litre, so we would be quite concerned at having to pay twice in that situation. But you cannot do two things.

Senator MILNE—If you took off the excise, though.

Mr McIntosh—You should take off an excise and put on a charge that reflects the usage, and then the people who use large amounts of fuel would pay more. I think we are saying in the submission that the current fuel tax is a very blunt instrument. It is easy to collect and it is easy to monitor and, if you have a V8, you use more fuel; therefore, you pay more tax. In the current situation, where certain new fuels are tax free, all those other charges are not being picked up and you distort the situation, so LPG users do not pay a road user charge.

Senator MILNE—Yes, that is not fair.

Mr McIntosh—Is that good or bad? You can argue that, yes, it is good, because we use that fuel and we encourage the use of that fuel or, if you are a road user advocate, you would say that that is bad because the road user charge is not being paid. That is why we make the point in the submission that the road user charge long term is a much better way of going. I think that world wide that is happening, and the Swedish example is one we are aware of.

Mr Metcalfe—In our recent submission to the Productivity Commission's inquiry into road and rail freight infrastructure pricing, we have quite a detailed appendix of the charging approach and the costs associated with air and noise pollution, in particular, as well as crash costs and pavement wear, and we identify how you might move from a fuel taxation regime to a road user charging regime that picks up all of those external costs, including air and noise pollution. That is for both heavy vehicles and passenger vehicles.

Senator MILNE—Would you be able to make that submission available to the committee?

Mr McIntosh—Yes, certainly.

Senator MILNE—I have a final question in relation to electric cars. You might be aware of the controversy surrounding trying to get a quadricycle category for Australian roads, vehicles et cetera. Has the Automobile Association looked at the issue of permitting a quadricycle category for Australia?

Mr McIntosh—No.

Mr Metcalfe—I am aware of the issue. As I understand it, the concern was about the safety of the vehicle on road. Obviously it is an important factor. There are Australian design rules that set the safety standards for vehicles. In some respects, we have not regarded those as raising the bar sufficiently, and that is why we as motoring clubs and road authorities join forces to do a lot of crash testing of vehicles. You would be aware of the star rating under ANCAP of motor vehicles. From a road safety perspective we are pushing for the need to have at least four-star cars on our roads. My understanding, at least with this vehicle, is that there was an issue regarding safety—so on road it would be an issue.

Senator O'BRIEN—I understand the issue is that we do not have the equivalent design rule that exists in Europe for these vehicles, where they are acceptable, although we are harmonising with other European design rules for the rest of the vehicle fleet but with some differences. I take it that the bodies your organisation represents have not looked at that issue in relation to whether we have a design rule that would accommodate these vehicles as they are accommodated in Europe. I suppose, from a safety point of view, we have a design rule for a motor cycle, which obviously has a lesser safety standard than a motor car. Isn't that an indication that we have variable standards and motorists make a choice as to the type of vehicle they buy, just as they may or may not look at the ANCAP standards?

Mr McIntosh—We would be happy to have a look at it. If you are talking about four-wheeled motorbikes—

Senator O'BRIEN—I am happy to give you the detail of the design rule in question.

Mr McIntosh—I know from other information that they are extremely dangerous.

Senator O'BRIEN—Why is that?

Mr McIntosh—In a rollover situation, in a farm situation, there has been a huge—

Senator O'BRIEN—That is with quad bikes?

Mr McIntosh—Quad bikes, yes.

Senator O'BRIEN—It depends on the rule, doesn't it?

Mr McIntosh—Yes. We try, on one hand, to make sure people do not kill themselves, hurt themselves or injure themselves. I am happy to have a look at it. It is a matter you should raise with the department of transport.

Senator O'BRIEN—Does that mean your organisation is against motorcycles?

Mr McIntosh—No. Nobody has raised it with us and we have many motorcyclists who are members, but equally—

Senator O'BRIEN—That is a bit of a double standard, in a sense. I understand where you are coming from on safety, and I agree with you in many respects, but unless we are going to outlaw motorcycles—

Mr McIntosh—Certainly not. We work closely with the motorcycle associations, but I know there are also many little cars being introduced into the market very cheaply at the moment that do not meet any sorts of design rules and are being used on farm, which will cause us problems in another area. I would support what John is saying. We have reasons for ADRs and we should have a look at that. I am happy to go and talk to the department of transport about it, and I am sure you are.

Senator O'BRIEN—We have been talking about a particular vehicle that an importer has brought into the country. It is on the roads in France, England and Japan and there are trials in the United States and, I think, Canada. It is entirely electric.

Mr McIntosh—Sure. We could have another debate about ADRs—‘Why do we need ADRs anyway? We can do all sorts of tests and things.’ But I think that is another issue.

Senator O'BRIEN—That would misrepresent the point that I am putting to you. The point I am putting to you is that in Europe there is an ADR for this vehicle.

Mr McIntosh—There are no ADRs, no design rules, in Europe. It is a very different situation. The type certification is quite different.

Senator O'BRIEN—There are certifications and rules which allow this vehicle on the road.

Mr McIntosh—We do not have the European certification rules in Australia. We have elected to be different. I certainly do not want to be an advocate for that. That is not our role.

Senator O'BRIEN—The federal government say we are harmonising with the European standards, so I am not sure where your position comes from in that regard.

Mr McIntosh—I would rather talk to you separately about it. I do not know anything about it and I would rather not continue. Honestly, I just do not know enough about that vehicle. But I am happy to follow it up with you.

Senator MILNE—I have a question on natural gas. We have had quite a lot of evidence to this committee from a number of people that natural gas is a very good transitional fuel for heavy vehicles in particular, but the lack of a distribution network is a major disincentive to converting the heavy vehicle fleet, the transport vehicle fleet, to natural gas. Does your association have a view about extending the distribution network around Australia for natural gas?

Mr McIntosh—We do not have a specific view, because I think it is unlikely that immediately natural gas will be a surrogate for light vehicle transport. It is used predominantly in buses and—

Senator MILNE—In heavy vehicles, yes.

Mr McIntosh—my understanding is that buses have to regularly travel to and fro and we have not worked out the storage issue. Our view would be that distribution networks are important but they have got to be economic. In many ways I think there are probably more opportunities for more research on alternative storage methods for natural gas in portable vehicles. I am aware that the CSIRO is actively looking at that and that some companies are, as with LPG, also keen to develop new storage methods and technologies—not only tanks but a range of sophisticated new technologies for storing gas in low-pressure vessels and in alternatively shaped and braced vessels. But again we have a whole raft of regulations that restrict the way we store gas, for all sorts of reasons. I know the CSIRO are very keen on working with companies on this, and the work that we do with the CSIRO is an area where I think research on storage of gases in different modes has great potential.

Senator NASH—I want to talk about biofuels. In your submission you talk about the higher fuel consumption of ethanol. I get a lot of conflicting views on the higher fuel consumption rate of ethanol. What data do you base your view on?

Mr McIntosh—My understanding is that the energy content of ethanol is not as high as petrol, and when you blend it you will get a reduction in the energy efficiency. I think that some of the CSIRO tests undertaken at the Orbital Engine Company show marginally lower fuel efficiency.

Senator NASH—If you could provide that to the committee, that would be great. In your submission you go on to say that there should be a price advantage of a very specific percentage. So I am assuming that you came to a very specific view about the higher fuel consumption. If you could provide to the committee the data and how you arrived at a very specific view—that is not really expanded on in your submission—that would be good.

Mr McIntosh—I think that the most important point of those four points that we make is ‘our view is that E10 results in a higher fuel consumption, there should be a price advantage’, but we are saying ‘around 4.5 per cent’. I think we are not being that specific.

Senator NASH—I think that ‘around 4.5 per cent’ is pretty specific. I am just interested in your initial figure of the actual consumption, given the various views we seem to get on that one.

You have also made a few comments on government assistance to the alternative fuels industry and the ethanol production subsidy of \$14 million. You point out that \$12 million has been paid to Manildra. What is the significance of the actual company being included in that statement about the ethanol production subsidy?

Mr McIntosh—The only significance is that they are by far the largest producer.

Senator NASH—Who is the largest producer of LPG? In the previous paragraph, you refer to the cost to government for the LPG excise concession. Who would be the major contributor there—given that you have pointed it out for ethanol?

Mr McIntosh—I think there are several major producers, but my understanding is that Manildra is the dominant producer—

Senator NASH—I take your point, but I think you have misunderstood my question. Having pointed that out for ethanol, which company for LPG is responsible for the greatest excise concession forgone to government? Given that you have pointed it out for ethanol, I am just a bit perplexed about why you would not point it out for LPG in the previous paragraph.

Mr McIntosh—I am not sure what you are trying to get at.

Senator NASH—I am not trying to get at anything. You have pointed out, for ethanol, the company that imposes the major cost to government, because of the subsidy. In the previous paragraph you talk about excise concessions for LPG, but you have not pointed out the major company responsible for that. I am just wondering why you have done it for ethanol and not for LPG, when you are talking about government assistance in both cases.

Mr McIntosh—One is an excise concession, which is across the whole area. I guess the other one was a production subsidy to an individual company.

Senator NASH—I think you have misunderstood me again. We are talking about assistance to both industries. You have pointed out the major industry for ethanol but you have not pointed out the major industry for LPG. You are talking about assistance in both cases. My question is: why haven't you pointed out who it is for LPG—and who is it?

Mr McIntosh—We are happy to have a look at it and provide you that information.

Senator NASH—Why would you not have done that in the first basis?

Mr McIntosh—As I said, I think we were dealing in one case with one quite significant supplier, and I do not think that there is one necessarily significant supplier of LPG. It is an industry as opposed to one major player.

Senator NASH—It is just very curious that you have done that specifically when really, as you say, apart from making the point—

Mr McIntosh—We are certainly not making any comment about the rights and wrongs of Manildra being paid any assistance.

Senator NASH—So what is the point of putting it in the submission?

Mr McIntosh—It was the major player at that point in time. It certainly has a very major view, in every meeting I have been to, about the role of ethanol—more so than any other.

Senator NASH—But in terms of your submission, I am just trying to get to the relevance of your including that in that paragraph, that is all. So what is the relevance?

Mr McIntosh—I do not think it is irrelevant.

Senator NASH—But what is the relevance? You are talking about assistance the government has given to industry. Why out one particular player?

Mr McIntosh—It is a significant amount for—

Senator NASH—But the point you are making is that government—

Senator O'BRIEN—Could you let him answer the question. I have quite a number of questions and he is starting to answer. I would like to hear the answer and I would like to hear your follow-up.

Senator NASH—Certainly, Senator; you are right.

Mr McIntosh—I am sorry; I cannot quite understand. I understand the words of the question but I am not sure that we are deliberately targeting or not targeting anybody else. Earlier, at the top of that page, we talk about BP and Shell and BMW and GM. We use them as generic terms in the process as major players in the deal. We make the point that this concession was paid to Manildra based on a question on notice. It is publicly available information. I do not think we are deliberately going out to target anybody or not target anybody.

Senator NASH—I did not say you were. I am just asking what the relevance is.

Mr McIntosh—I am sorry. I do not think I can add any more.

Senator NASH—Did you want to ask anything further, Senator O'Brien?

Senator O'BRIEN—No, go ahead. I will have some more questions—

Senator NASH—I am going to move off this topic; I just wanted to know that everyone has—

Senator O'BRIEN—No. Manildra get 90-odd per cent of the money but that is a matter of fact and perhaps a debating point. But I am happy with your questions.

Senator NASH—Moving on to the labelling, I know you do not support the amended label. We had Ford before the inquiry last week. They said that they are doing a lot of work now with labelling at the tank so that when people fill up their car the label is there on the car, which seems a pretty sensible way to go. In your view, is that the best way to go? It certainly seems that for every motorist who buys a car, if it has a label on the tank—rather than on the pump that they have to go and read—then they will know straightaway. Do you think it is appropriate for them to be on the vehicle?

Mr McIntosh—I have been on the Biofuels Taskforce for many meetings and have been involved in the labelling issue for a long time. I know that Mr Macfarlane was very keen for new vehicles to have a label on the tank that says: 'This vehicle is acceptable for that.' We do not have any argument with that at all. We think that is a useful additional label on the vehicle. We would have liked to see more labelling at the petrol station itself about which vehicles were acceptable and which were not, because we think that it is inappropriate to have it on the website

only. We think that people should be given more information so they can feel more comfortable. We would certainly encourage that. We have been publishing information in our magazines and encouraging people to recognise that their car can or cannot use ethanol. We do not have any problem. We think that the labelling is a useful activity.

Senator NASH—I agree that it is and if the E10 is going to cause a greater use of the fuel, I think people will pretty quickly cease to use it. They will notice very quickly if it is significant. In March 2004 the initial label was introduced, as you said. Have any of your members come to you with any kind of problem from ethanol blend in those older vehicles in that time?

Mr McIntosh—Not that I am aware of, and in the later time when we have had those fuels provided that has not been an argument. People have been willing, have had enough information and have deliberately bought the fuel and used it.

Senator NASH—As you said, you do not support the amended label. Is it your view that the change of label will cause people to have problems?

Mr McIntosh—I think we are talking about an issue of perception in this whole debate. The important thing is to ensure that people do not have misconceptions and that they are well informed. There was a time when people were not well informed, and that caused a major perception issue. It was certainly an issue where the manufacturers were not prepared to warrant vehicles with high levels of ethanol in the fuel.

Motorists are very concerned about their warranties and their cars. It is often for very limited reasons, but the historical issues of ‘lemon’ cars and bad warranties is a serious issue in the community. If people have a perception that something will void their warranty, they are very nervous about it. For whatever reason, that situation occurred with very high levels of ethanol in the fuel sold in Sydney. To then get over that problem, we have to provide a lot of information to motorists so they can feel comfortable that those high levels are no longer there and that the warranties are not void.

It took a long time for the government, ourselves and many others to encourage the car manufacturers to publish the information about which cars were acceptable and which were not. On behalf of the motorists, we were keen to have that information available and we made many representations to the FCAI for that to be made available. Now that information is available, albeit on a website, and there is a label on the car itself, that is a very positive step. That does address that perception issue in people’s minds. We have to find ways of doing that. We have written many articles in the club magazines to encourage people to recognise what is there. We are really keen to get ethanol into the mix, but we do not want to go backwards in the public perception issue, which is very hard to redress.

Senator NASH—Absolutely. It is all about perception, and facts do not necessarily come into that, do they? I have a technical question, and it is probably a fairly broad question. We were talking about the energy content before. Is there any variation within loads of fuels within a particular company? We were talking about the different energy ratings by the time you put ethanol into a blend to make it E10, but is there any variation in energy content within unleaded fuel?

Mr McIntosh—In fuel quality, yes. I think there are now quite reasonable standards and testing by various state authorities to ensure that the octane level, which is to a certain extent a measure of the efficiency, is maintained. My understanding of the surveys is that there is a range of ratings of that, but it has to meet certain standards, and the testing is fairly reasonable. There was a time some years ago when the AAA did look at whether we would rate the quality of petrol because of concerns about octane rating and other additives, but I think we are now of the view from the information we have seen lately that the standards authorities are making sure that those standards are met. There is now of course a range of other fuels, apart from unleaded. There is 95 RON, 98 RON and 100 RON. There is Optimax Extreme, which adds ethanol for the Ferrari drivers. It is very complicated. The price structure is very complicated as well.

Senator NASH—It is. Does the range within unleaded affect the fuel consumption? What I am getting at is: within the range in unleaded you are talking about, can the fuel consumption vary within just straight unleaded fuel?

Mr McIntosh—Certainly not. It would not vary that much. Again, it depends on what you are using for the octane enhancer and those details.

Senator NASH—All right, but it could vary.

Mr McIntosh—Certainly the work that the CSIRO have done for the government, that Orbital Engine Company research, would show all that detail. It is a very extensive study the department has done.

Senator NASH—Your view that the blend should not contain more than 10 per cent ethanol, as I understand, is purely for the reasons you said before about the warranty voiding, what is said to safe and what the standard is. Would your association have a view on increasing the percentage of ethanol in fuel—this is hypothetical, of course—in cars that could take a higher blend? I guess what I am talking about is that we have Holden making vehicles in South Australia that can do it at 24 per cent and we are exporting them. Your view is based on those reasons you gave before, but if there were cars capable of using it—

Mr McIntosh—Sure. As long as the warranties are not voided, we do not have any argument. The argument has been that 10 per cent is what the manufacturers are stating and so, on behalf of our members, we certainly could not recommend anything else. We are not technically smart enough to be in a position to say that it does not matter if you break your warranty.

Senator NASH—Yes, but just hypothetically; if they were at 24 per cent, safely, you could say, ‘Up to 24.’

Mr McIntosh—Sure. And I think there will be options; those options will come around. Again, the important thing is that motorists have the choice to make, and if motorists do not feel they have the choice, then they are more likely to feel negative about putting things in their cars that they do not like. And we do not want to be in that situation. We would rather encourage them to put things in their tanks that they do like, and I think the price advantage, the market, is the best place for that to happen. If people can see that, they certainly have to do it.

Senator NASH—Indeed.

Senator O'BRIEN—Mr McIntosh, the government's recent announcement of subsidies for LPG conversions has been discussed here today. We have been given some numbers on the expected rate of conversion that is provided for in the package. Have the organisations that you represent received any information about the impact from this announcement on the cost of conversions?

Mr McIntosh—I think it is early days; there is certainly a lot of media interest and a lot of comment. I was in Adelaide yesterday, and the club technical staff are receiving many calls on the price and the potential of increase in price as a result of the subsidy. And I am sure that, no matter what someone introduced, that would be the likely situation in the first few weeks when there is a shortage like that. So my feeling is that it is an important issue, and motorists should be concerned. I would assume the ACCC would be watching this sort of situation very closely. I am sure the Treasurer will have—

Senator O'BRIEN—But what could they do, unless there is price collusion?

Mr McIntosh—There may well be price collusion, of course, in that situation. Equally, they should be in the business of monitoring, and just doing that. I think the ACCC Chairman, Graeme Samuel, said yesterday, in talking about another matter, that disclosure and transparency is the most effective discipline for ensuring you have a reputation of integrity and the highest standards. So one would assume that he would be applying that not only to doctors and drug companies but also to gas companies and others. I think, in the end, that it is likely that the market will work, and I would think that, given the extent of the subsidy, we are likely to see more players come into the market. I would think the car manufacturers themselves are more likely to move at the factory level and that, as a result, prices will be far more competitive. Certainly, in the short term, I think there is likely to be a lot of flak and a lot of rent-seekers in the business.

Senator O'BRIEN—Do you know what number of conversions the government is expecting, as against the historical fact?

Mr McIntosh—We have done some work on what the changeover prices might be but, honestly, I really do not think we have that knowledge; you would have to ask the government that.

Senator O'BRIEN—We were told today that the package is based on projections of 57,000 conversions—I thought that was the evidence—for the remainder of this year; 85,000 the following year; 128,000 the year after; then falling back to 100,000, and then down to about 76,000 each year thereafter. And that is from a base of 30,000 conversions. So we are talking about the doubling, tripling and quadrupling of the rate of conversion. I understand that the only manufacturer at the moment is constrained by supply limitations, and that supply is three months behind order as a result of component supply limitations. Isn't it extremely likely that there will be at least a semi-permanent rise in prices and lengthy delays if the market is not met with massive imports of components?

Mr McIntosh—I think you could also argue that, with those sorts of numbers, there would be a lot of new players in the field pretty quickly.

Senator O'BRIEN—You also have to train the mechanics, and license them for the conversion.

Mr McIntosh—That is true, but equally it may not be such a big job if they are not doing something else. There may well be many in the factory who could be reshuffled. I agree there are potential problems but it is an issue that we should try to work through and find solutions to, and encourage these alternative fuels. My view would be to take the positive approach to the government's initiative and say, 'What are the impediments?' and if there are some impediments, 'How do we work through these and solve them?' rather than say, 'We're not going to achieve all this.'

Senator O'BRIEN—I was addressing the impediment of the capacity, the impediment of the supply of components and the impediment of the number of licensed mechanics. I understand that if the job is not fitted by a licensed mechanic and a plate attached to the engine, the warranty is voided. You would be concerned about that. Shouldn't we also be aware that in many cases where there is a subsidy there is evidence of some sectors of the business community effectively appropriating that subsidy to themselves rather than passing it on to the consumer, in this case the motorist?

Mr McIntosh—In terms of getting the best deal for motorists, of course we are concerned about that. It is early days to assess the full implications of all those issues. I would hope we would find a way to work through them. Certainly, in those later years I would have thought that the potential to go from 30,000 to 128,000 is a huge production increase and there is the potential for new players, new systems, new tanks and new methods of licensing. A range of things are likely to come in. We should be trying to facilitate those so we can do that. It could equally be argued that with those sorts of numbers there will be less excise revenue for the government to collect.

Senator O'BRIEN—That is built into the numbers in the package.

Mr McIntosh—And less road funds. We would be interested in looking at those as well.

Senator O'BRIEN—You have always argued that an insufficient proportion of excise is put into road funds, so there is a fair bit of latitude within those funds to deal with that.

Mr McIntosh—Yes, that is true. We would be happy to have it all put back into roads and we would save a few lives. I really think it is early days. Certainly, we are watching, and I know that the club's technical staff will be watching this and will be trying to find ways to make the opportunities of the extra subsidy work.

Senator O'BRIEN—Your submission says that only 254 private vehicles were sold, excluding taxis, in 2005 that were LPG factory fitted.

Mr McIntosh—Yes.

Senator O'BRIEN—And 5,300 LPG taxis were sold. Most of the production of vehicles in 2005 must have gone into the taxi fleet and not into the private fleet, according to page 14 of your submission.

Mr McIntosh—We are quoting VFACTS data for the year 2005. It was 254 for passenger private LPG, and for passenger non-private LPG it was 5,386.

Senator O'BRIEN—It is going to be a pretty dramatic change in the structure of the fleet.

Mr McIntosh—Sure.

Senator O'BRIEN—By the end of this decade we are going to see another 300,000 vehicles go into the fleet if these numbers are right.

Mr McIntosh—We made the submission back in March before all this and we suggested then—

Senator O'BRIEN—You are to be congratulated.

Mr McIntosh—Thanks.

Senator O'BRIEN—I think it is important that there be foresight into the fuels of the future. Your submission also says:

The Government should be developing a strategy to ensure hydrogen for transport is available from 2010 as vehicle manufacturers have stated that this will be when fuel cell/hydrogen vehicles will become available.

Which manufacturers have indicated that they will have vehicles available and what sort of vehicles will they be?

Mr McIntosh—Off the top of my head I cannot say, but I have certainly seen and been in hydrogen powered vehicles and I know that General Motors and some of the German manufacturers have them available. I guess the issue is that they have had them available for five years already, so when they become commercial will be another issue. Certainly, I think we can have a look. Those vehicles are available, I have seen them and been in them, but I think the biggest issue there is distribution. I know the CSIRO and the government's energy white paper have put aside substantial funds for investment in that research. The distribution is probably the most difficult, and that is where LPG is in front and we should be picking it up because we do have quite an adequate distribution network. There is a website where you can plan your holidays on LPG so that you know where to go from place to place so that you do not run out. That is probably a world first. Not too many countries in the world would have such an alternative fuel distribution network as we have with LPG over such a huge distance with relatively low volume, so we should be using that as best we can.

Senator MILNE—Tasmania would be the exception in terms of the nation. Is your club able to bring any pressure to bear? For example, if you leave Hobart, the last place you can get LPG is Sorell. So all up the east coast of Tasmania, councils and whatever cannot take advantage of the fuel conversion package because there is no supplier. Have you done anything about that? I think everywhere else on the mainland is pretty good but we are not.

Mr McIntosh—I agree with you. The distribution network in Tasmania is poor and the price is outrageous. We are aware of that price differential. I think it is probably worth making the

point that Hobart LPG costs in July were almost 70c a litre compared to Melbourne at 49.4c. It makes it very difficult to justify the conversion in Hobart when the distribution network is poor and the price is so high. So the RACT is certainly onto that and has been making some comments and working with the producers down there.

Senator MILNE—We would appreciate any help we can get.

Mr McIntosh—We are certainly aware of it. It is a very important point to make.

Senator O'BRIEN—What happened to the ECommodore you mentioned on page 15 of your submission?

Mr McIntosh—I think that is a question you will probably have to ask Holden. It was a very innovative push for using the super capacity developed by the CSIRO. I think that their work was really leading edge and I would suspect there is potential to do more. Again, it was a question of fuel price and staying in the business. It is a matter you will have to ask Holden about.

Senator O'BRIEN—Given that the latest Commodore release seems to have less fuel efficiency than the previous one, it is going in the opposite direction to halving the fuel use.

Mr McIntosh—I agree but, on the other hand, you could argue that Holden have brought out the small diesel Astra and put it in that market for people to choose and buy an alternative car. I guess you could argue that the Astra is probably the same size car as an FJ Holden, it is available at a lower price than the Commodore and it runs on diesel and has a very good result.

Senator O'BRIEN—I do not know what the price difference is between a petrol and a diesel Astra.

Mr McIntosh—A diesel Astra is likely to be cheaper than a Commodore, but between a diesel and a petrol Astra the price is substantially higher. Again, we have a problem with the price of diesel versus the price of petrol and the taxation arrangements are all over the place. That is why fuel tax reform is so important, as we have said many times before.

Senator O'BRIEN—Can you expand on that part of your submission which says, at page 8:

AAA supports the use of fuel taxation as a means of improving public transport provided it results in overall improvements to transport efficiency.

Mr Metcalfe—In the same way that we are advocating for the revenue from the road user charge to be allocated to roads, we also believe that some component of that revenue from the road user charge could go towards improving public transport. Obviously, in many instances, particularly in cities, it would make the motorist better off if they had a viable public transport system that in a sense replicated the private car in terms of security, safety, flexibility and frequency.

Senator NASH—So you are not suggesting any increase, just a realignment of the tax that is already taken?

Mr Metcalfe—We have always argued that there ought to be more of the revenue from fuel excise going back into land transport. We would see a greater amount going into land transport, including public transport where appropriate.

Senator O'BRIEN—And the use of public transport has an impact on road congestion, of course, which has an impact on fuel efficiency, drive time and the general patience of the road user and therefore safety.

Mr McIntosh—That is right.

Senator O'BRIEN—I know that you said you would provide some more material on this, but in your submission you talk about replacing the excise with a road user charge and a road use charge. The submission says:

... a road user charge ... includes an access charge and a usage charge.

Some people would argue that when you pay excise you pay both at the same time. How would this change things?

Mr Metcalfe—There are some substantial inequities, really, between city and country, for a start, in the way we charge for the use of the roads. There are a lot of inefficiencies in charging for heavy vehicles and light vehicles. We believe there ought to be greater transparency in the charging approach in the same way that we charge for telecommunications, electricity and gas. We feel it is more appropriate. You get better investment and signals to the consumer on deciding where and how they should use infrastructure efficiently by replacing a very blunt excise, which taxes everybody the same amount in cents per litre irrespective of air and noise pollution, crash costs and so on. We believe it is a far more efficient tool for signalling to consumers how to use the road infrastructure network and where investment should take place. That is the way it is applied in all other infrastructure services. The road network is in a sense the last infrastructure service that is not really subject to any market based mechanism. We think that would be appropriate.

Senator O'BRIEN—Should I interpret that to mean that we have a general charge based on the type and size of the vehicle and almost a constant tolling charge?

Mr Metcalfe—There ought to be a charge, as we discussed earlier, for accessing the network. It could relate to the fuel efficiency of a vehicle, although we have said that the actual on-road charge could relate to fuel consumption. You might want to look at it in terms of a lower charge for a more fuel efficient vehicle. There ought to be a very simple access charge in the first place and then a usage charge that covers all of those so-called external costs of pavement wear, crashes and air and noise pollution.

Senator O'BRIEN—How would we collect that usage charge?

Mr Metcalfe—I think we now have the capacity to start charging via electronic means. You are aware of some of the toll road networks. We have free-flowing technology, for example, on CityLink in Melbourne, with tags, and the bill for use of the network is essentially sent to the motorist. Cars can be tracked via GPS, and there is a range of technologies available for

collecting the revenue and billing the customer. Obviously these issues need to be explored in detail, but the technology is out there, it is available, and I think we need to think about ways we can move forward in this area.

The Productivity Commission, which I mentioned earlier, is currently inquiring into road and rail freight infrastructure pricing. It will no doubt be exploring some of these technology issues as well. Trucks travelling through Germany, Switzerland and Austria are charged electronically and tracked via GPS. I know there are some initial teething problems and there are obviously some administrative costs associated with implementation of the technology, but it is in place now in many countries in Europe.

Senator O'BRIEN—There was one other question and I have forgotten it, so I might have to ask you privately.

Senator NASH—I have one totally unrelated comment on the new electronic tolls in the cities that you were talking about. Is there some way of perhaps your association—you might suggest to me who I should contact to perhaps do this—getting information out to rural drivers who infrequently come to the city and are unfamiliar with how the toll roads work? I noted this the other day with the new M7 in Sydney. It says 'cashless booths' and it has two options. Unless people knew beforehand, they would have no idea of how that operated. Is there some way of informing rural drivers who go to the city infrequently: 'When you go to the city, this is how it works in each of the states'? I think that would be quite helpful.

Mr McIntosh—I understand what you are saying. It is an issue we have raised with the tolling companies in the past. They claim it is not such a big issue, but I think, given the increased use of cashless transactions, particularly in New South Wales and in Sydney, that is an issue. We will raise with the clubs that they could make a point through their magazines to tell people what is available.

Senator NASH—That would be good. Would it be possible for the RTA to put an information brochure in when you renew your registration, even if they just did it for regional postcodes?

Mr McIntosh—We can ask them. I have one point on that. To pick up the issue I think Senator Milne raised on the pricing, I think Darwin also suffers from a very heavy LPG cost of about 77c a litre. I think monitoring of not only the installation but the pricing of LPG is a really important issue for the Treasurer and the ACCC. We would think that in this time of trying to encourage alternative fuels we would not want to see people turned off because the rent seekers in the price business are taking them up. Again, transparency is the best attack in this sort of situation. We hope the ACCC and the Treasurer will see their way to doing that.

Senator O'BRIEN—I hope those prices are not portents of the general market.

CHAIR—I know in Perth we used to get very angry because LPG prices were always higher than in the east and the LPG came from WA. We used to get really narky. Thank you very much.

Committee adjourned at 3.25 pm