ECONOMIC DEVELOPMENT AND INFRASTRUCTURE COMMITTEE

Inquiry into greenfields mineral exploration and project development in Victoria

Melbourne — 14 December 2011

Members

Mr N. Burgess
Mr M. Foley
Mr W. Noonan
Mrs I. Peulich
Mr G. Shaw

Chair: Mr N. Burgess
Deputy Chair: Mr M. Foley

Staff

Executive Officer: Ms Y. Simmonds
Research Officer: Mr S. Martin

Witnesses

Mr D. Sceney, Acting Executive Director, Earth Resources Development, Energy and Earth Resources Group

Dr D. Suster, Manager of Earth Resources Legislation and Reform, Energy and Earth Resources Group, and

Dr M. Hollitt, Executive Director, Mineral and Energy Resources Development, Policy and Strategy Group, Department of Primary Industries, Victorian Government.

The CHAIR — Welcome. I think we've all met. I'm Neale Burgess, the Member for Hastings and the Chair of the Committee, and Martin Foley, who is the Deputy Chair and the Member for Albert Park. On his right is Wade Noonan, Member for Williamstown; Inga Peulich, Member for South Eastern Metropolitan, and on Inga's left is Mr Geoff Shaw, Member for Frankston. The Committee is an all-party parliamentary committee and is hearing evidence today on an Inquiry into greenfields mineral exploration and project development in Victoria. Welcome to this hearing.

All evidence taken at this hearing is protected by parliamentary privilege but the comments you make outside don't have that same privilege. The evidence taken today will eventually become public evidence and be on the record. Could you each please state your names and business address of the Department.

Mr SCENEY — Doug Sceney, Acting Executive Director, Earth Resources Development, currently located at 55 Collins Street.

The CHAIR — On behalf of?

Mr SCENEY — On behalf of DPI.

Dr SUSTER — Danny Suster on behalf of DPI, I'm the Manager of Earth Resources Legislation and Reform team located at 1 Spring Street.

Dr HOLLITT — Michael Hollitt with DPI, I'm the Executive Director, Mineral and Energy Resource Development for Policy and Strategy.

The CHAIR — Would you gentlemen like to proceed.

Dr HOLLITT — As you know, the Victorian Government has prepared a submission to the Committee that covers much of the nature of the industry in Victoria and some of its key challenges. It summarises some of the regulatory approaches and the data provision within the Government. Today, rather than simply running through that, this presentation has a slightly different flavour to it: it seeks to augment that and clarifies some particular issues raised by the Committee that have come through the system for our attention.

I will provide some initial context first to set the scene for what follows, and then I'm going to run through some of the Government's approaches to industry support and stimulation, look at what that means for the perceptions in Victoria, particularly for the perceived attractiveness as an exploration destination, address the regulatory framework in Victoria and the reform processes as they relate to the minerals sector and then give a quick summary of our paper. I imagine there will probably be questions along the way. Between Doug Sceney, Danny Suster and myself we will attempt to answer them today but if that's not possible we will surely get back to you with whatever we can get back to you with as soon as possible.

First of all, a little bit of context. The Victorian minerals and energy industries, or otherwise known as earth resources industries, have the unusual characteristic by Australian standards of mainly providing for the needs of Victorians. All of the large economic contributors are used principally by Victorians, reflecting the small geographical area and large population in Victoria with 25 per cent of Australia's population in three per cent of Australia's area, so we've got a big demand base and a smaller supply base so it's not perhaps surprising what's produced in the sector in Victoria is used in Victoria.

The largest earth resources export industry in Victoria is mineral sands, and you can see that while we're very happy with the development of that industry it's actually not the most significant part of the resources industry in Victoria. The fact that Victoria's earth resources industry does largely supply Victoria means that a decline in that industry is a reflection of a decline in the contribution of relatively low cost minerals and energy for Victoria as much as it is an inability to share in the wealth creation opportunities. As in all other Australian jurisdictions, the discovery and development of Victoria's earth resources depends on attracting private capital. The State doesn't take equity in resource projects or resource operations.

As we mentioned in our submission, the search for and the development of mineral resources requires a long-term commitment predicated on the occasional success of private capital from a large number of attempts. Economic contributions that come out today are the product of a large number of long past attempts at discovery and the ability to distinguish Victoria's development opportunities from the competitive offerings of

the other jurisdictions. The other jurisdictions globally are often active in the global market and they work hard to attract and retain private capital investment away from others.

In our submission we showed that Victoria's relative economic contribution from its mining and petroleum activities has declined in the last 15 years or so, and that it's significantly lower than the relative economic contribution in other states, including Western Australia, Queensland, New South Wales and South Australia. The context for this is of economies that are largely driven by population, with mining opportunities largely driven by land area so there are different drivers. We can expect that higher land area relative to population will normally result in a higher proportional contribution of mining related activities to the economy, from a proportionate perspective relative to the total economy.

Victoria has traditionally performed pretty well for its area if you go back far enough, reflecting the contribution of Bass Strait in oil and gas in particular. Its decline in relative contribution has been a result of both a decline in absolute economic contribution and an increase in population. The decline that's occurred in relative contribution in the last 15 years is much larger than can be accounted for by population growth alone. Large mining states such as Queensland and Western Australia have benefited from endowments of bulk mineral and energy products for export that are in high demand in industrialising economies. Victoria has no known endowments that support that type of outcome, and I think part of that reflects its geographical area.

The development chain for mineral resources is sometimes referred to as a pipeline, from exploration all the way through to economic output, but it must be considered a very long and leaky pipeline if it's considered to be a pipeline. The success rate for exploration attempts to new mines in Victoria — and we see here 605 exploration attempts to two new mines — is about 300 to 1 so it takes an awful lot of exploration to find a new mine, and that's actually not markedly different from other jurisdictions, depending on how the accounting is done, so we're pretty happy that 300 to 1 is not a high attrition rate, if you like, even though it might seem to be that way.

Mr SHAW — It's the same in Queensland and WA?

Dr HOLLITT — Yes, indeed. In fact, if anything, in the analysis that we've done so far Victoria is a little bit better in its conversion rate than some of the other jurisdictions.

The time from first discovery to an operating mine is typically 10 to 15 years. This is a really long time which means you have to pay attention to the front end of your chain at the same time as you pay attention to the back end of your chain. It can be longer than 15 years if the resource must await developments elsewhere in the world.

As many others have commented, it is necessary to maintain a focus on all aspects of that chain, from discovery through to evaluation, and then into construction and operation, for the minerals industry to thrive. Resources are finite and they will deplete so they must be supplemented by new discoveries that eventually feed the pipeline some time later — 10 years or so. Lack of discovery 15 years ago is affecting the industry today. Further, the minerals industry now has many aspects in which it is competing strongly with other jurisdictions, both nationally and internationally — which wasn't the case 20 years ago quite so much as it is now — following the development of national markets for energy and the globalisation of investment that occurred of the late 1990s.

I just need to make a point about greenfields that's an important point. There's often an unfortunate confusion between total exploration data and greenfields exploration data that we need to be conscious of to get a true picture of the Victorian situation. The confusion arises because of definitions of exploration for economic reporting purposes that don't accord with the normal and reasonable expectation that exploration is about discovery of new resources. Definitions of exploration often include a lot of post discovery activities involving sampling and modelling of the resource, including for mine planning purpose, which is much later in the chain, long after resources can be found.

Since 2003, and only since 2003, it has been possible in Australia to distinguish true discovery based exploration data from post discovery activities. That's important because the post discovery sampling and modelling occurs on shorter lead times relative to the development, and it is most often conducted by parties that didn't originally discover the resource, so it's usually a changed entity by that time. These parties operate within parameters that provide a much higher chance of success than greenfields exploration. Greenfields

exploration is about discovery — it's different in having low chance of success, long lead times to development and often different actors having different motivation and higher tolerance for ambiguity. There's actually no reason to believe that stimulation of brownfields activity will have any influence on resources discovery, it has to be greenfields.

Indeed, if you look at the Victorian data, which I've tried to present here, there's no correlation at all between greenfields, which I've got there, and brownfields data for the period of time in 2003; one doesn't go up with the other. What you actually see is that brownfields is pretty much unrelated to quite significant changes in greenfields activity so it's necessary to pay attention to greenfields. That creates a problem for us because we've only had that data since 2003 so what we've done in order to cover for that — as you can see here — we've actually got a good correlation between the greenfields exploration activity since 2003 and the rate of licence grants. This is new licence grants and you can see it's correlated to the greenfields exploration expenditure. From new licence grants we can see that there was a step downwards in exploration activity as a result of the many rationalisations that occurred as the minerals industry globalised in the mid to late 1990s.

What happened elsewhere was that there was recovery from this step downwards as other companies started to take on the responsibilities in that specialist explorers took over where other companies had left off. In Victoria you can see that our bounce-back was not very solid whereas in most other jurisdictions it was in some cases higher — in many cases by now 80 or 90 per cent compared with Victoria down at around 40 or 50 per cent of its peak — so it hasn't really bounced back. There's also a global financial crisis effect there and we haven't quite bounced back from that either, although I must say there are early promising signs. The changes produced another effect in Victoria's greenfields exploration. Notice the predominance of gold here until the mid 1990s, and you will also notice that there's big diversification away from gold since, and that's in areas having a more globally competitive prospect such as, and not surprisingly, mineral sands, and a significant proportion has been non-gold since that time.

Victoria has for some time had subdued greenfields exploration activity compared with what is needed to sustain a growing minerals industry. As a result, all indicators in prefeasibility study expenditure, capital investment and current economic output are showing that the entire value chain is now affected by those things. Both leading and lagging indicators suggest that Victoria's earth resources industries are not benefiting from the boom that's been happening since 2003 with a short pause in the global financial crisis of 2008. This decline is in both absolute and proportional terms; it's not explained away by general growth in the economy. Others have pointed out the linkage between current success and future success because of the strong feedback loop that happens between success in development with new mines coming on stream, improved perceptions and then coming back into exploration. There's actually a really strong link there and I will show you some evidence of that as we go through — and others have commented on that as well, as I understand it. The linkage is one of perceptions.

It's worthwhile to consider at least qualitatively what that means for Victoria. Richard Schodde, who is the Managing Director of MinEx Consulting, has prepared in other places indications of how much it costs to find a mine of significance in the world. It's actually quite interesting, the real measure is what is the total exploration spent on greenfields, which is about $1 billion per mine, the total greenfields exploration expenditure divided by the number of tier one mines, and it works out to about $1 billion, which is a lot of money, and that's in dollars of the day because this data was collected over 35 years. The importance of this is going to become apparent in a little while when we look at one of most significant indicators of what drives further greenfields exploration. It is success with mines that people talk about; it's one of the biggest drivers out there. These tier one mines that people talk about — you will know their names — for example Olympic Dam in South Australia, Escondida in Chile and many others globally.

Unfortunately, we can't really wait until we have a tier-one discovery because it will take too long. We actually have to make the most of the discoveries we've accumulated over the years and take advantage of what we've got out there. There are some opportunities for that right now, particularly in minerals sands, for which the stars might just be aligned for development, and those windows of opportunity come along from time to time and we're kind of hoping that a large development will stimulate further greenfields exploration activity, creating a virtuous cycle that I was just talking about.

This is a map of Victoria showing licence activity. The areas that are green are areas where exploration is not allowed. The areas that are white are areas where exploration is allowed but is not happening at the moment.

The areas in blue, as you can see, take up most of the areas where exploration is allowed. There's no shortage of area under licence in Victoria, and this is the really interesting thing because you would say that's evidence that greenfields exploration is strong, but what I can say is in this representation of area the amount of Victoria that's under licence hasn't changed for decades — it is similar for decades, but there's been very substantial change in the amount of greenfields exploration expenditure, so there's another really important consideration which is the extent to which capital that's available for investment on an exploration licence is made available to the licensee so that they can go in and do their work. It's not only how much of an area is covered, it's how quickly that turns over through people doing work that's, for the most part, unsuccessful but in the end turns out to make for a strong industry.

As it turns out, we have some data that shows there's a relationship between licence turnover, resulting in shorter average licence cycle times, and the proportion of exploration capital that is brought to Victoria. You wouldn't necessarily expect that as the flow of exploration money goes up and down that a proportion of Victorian greenfields exploration would go up and down; you might hope that it would stay the same. As it turns out, when the capital is short the proportion of expenditure that Victoria gets is lower, we actually get a double whammy, not just a reduction in general but a reduction in our proportion. This is showing where we were in 2003–04 in the boom and here is where we are in 2008–2011. This is just the licence cycle time: you can see the licence cycle time has gone out substantially across that time. What you'd really like to have is a short licence cycle time and a good proportion of Australia's exploration, plus hopefully Australia having a good proportion of the world's exploration. When you look at this data, what it suggests is that when capital has been rationed we're more greatly disadvantaged.

The question becomes one of how it is that Victoria can move up that queue of exploration capital, and this is a question of Victoria's approaches and how they relate to approaches taken elsewhere. Victoria has had a number of initiatives since the mid 1990s, primarily focused on a collection of geosurvey data and presentation and availability of that data since the mid 1990s. Three of the most significant programs that were conducted from the mid 1990s were evaluated this year by the Allen Consulting Group, so we actually went through to try to find out whether they had met the objectives that we're looking for. In the evaluation they were found to have been very well done, they produced very good quality work, but the rest of the evaluation was a little bit more interesting in that the conclusion was that the programs had been ineffective in stimulating greenfields exploration. The reason that was given was that the principal source of market failure isn't actually missing information, that there are other causes out there.

Allen Consulting also looked at the world in this to see whether there was a correlation anywhere else, a correlation between the provision of high quality geological data and exploration activity, and they were unable to find it in the world at large. They also found that the actual earth resources programs themselves, getting a good quality product out and the ability to gain influence from them, was not affected by either the quality of the products or by exceptionally burdensome aspects of Victoria's regulatory or policy environment. So they went to look for whether burdensome regulation was the reason that the programs had been ineffective in estimating exploration and concluded that that wasn't the reason.

The other things that the Allen Consulting report produced was a set of recommendations about what we should be clear that we do in any future program. The recommendations included greater consideration of the articulation of objectives. It was interesting that the objectives of the program didn't clearly state an objective of encouraging exploration so that was one thing that they were suggesting. They talk about measures, putting in place measures of success in those objectives. They talk about the fact that if you have objectives and measures that you should also have evaluation, which is what we did in this process. They did say that an important thing was to build on what had been achieved so far rather than start from a blank sheet of paper every time, as we already had good data to build on. The other thing was that we should leverage company generated data, which they thought would be publicly accessible sooner. In other words, the people really doing the exploration and generating most of the data are public companies, so they said there was the possibility of voluntary early disclosure and a number of parties accepted that that was possible, so I think that's quite useful. The last bit was about industry consultation where Allen Consulting suggested that rather than just consult in putting these programs together with people in our local environment, there was the need to consult globally with those who had a more significant impact in the world, so that we could find out what is important to them as well. This was a quite useful study.

As the Allen report found, Victoria is generally perceived as having amongst the best government-provided geological and exploration information in the world. There's Victoria up here. This is the geological database ranking, and you can see, just about the best in the world. There's no gap here that would suggest a link to poor perceptions of exploration potential. In other words, it doesn't look like our geological data is the thing that's causing this perception. This was view was supported — as I understand it — by Iluka, who work in multiple global jurisdictions. They commented that the GeoVic system is one of the best online resources currently available in the world.

It's of interest that when looking for the link between government-provided data and perceived prospectivity, if you look at the scale here there's no pattern that actually emerges globally if you just look at the data. That's why the Allen report found there's no compelling evidence for such a link. There are jurisdictions with very poor data that have very high potential and have a lot of exploration happening at the moment, and jurisdictions having excellent data that are considered unprospective, so this is pretty interesting.

There are some jurisdictions — notably many Australian jurisdictions sitting up in here — for which there's both good government-provided data and good perceived prospectivity, but these are mainly currently active mining jurisdictions. The red dots actually indicate jurisdictions that have iconic mines, mines which have a significant economic contribution, and you can see that there's a strong focus of red up in that corner. These are current mining jurisdictions and it's perhaps not surprising that they have very good data because there's a lot of work going on there, and that information is provided into the Government.

When you look at these ones over here where there's poor perceived prospectivity, but good data, they're generally the jurisdictions that are seen as previously having had really strong mining. You can see California down here, you can see us in Victoria here. If you go back far enough — go back 100 years or so — these were both strong mining areas, a bit like Western Australia is today, but since then their contributions to the general economy of where they stand is nowhere near as big today you see that there's really good data in those jurisdictions but they're not seen as quite so prospective.

As I said, there's another feature that emerges from the global data: virtually all jurisdictions that are known to host large mines are actually high on the prospectivity side of it, on this side of an imaginary line running up here. Examples of the sorts of things that are included in that are the Pilbara of Western Australia — a household name — the Carlin type gold deposits in Nevada, the large potash resources in Saskatchewan in Canada, diamonds in the North West Territories of Canada, the Grasberg mine in Indonesia, the Simandou iron ore prospect in Guinea — there it is sitting down there — and the very large copper porphyry resources of Chile and Peru. So basically what it comes down to is if you've got that kind of large min there people think you're prospective. The other thing that stands out is that very few, if any, of these resources were developed by their discoverers, even these iconic ones, with a few exceptions. The global industry now has a pretty clear distinction between the people who explore and the people who are eventually going to develop and operate it.

Mr FOLEY — So it's not a very rational process?

Dr HOLLITT — No, not necessarily. What it comes down to is the risk equations for explorers are very different from the risk equations for developers. Developers already know that there's resource there so their processes are very rational indeed, they're about finding an economic proposition that sits on a mining entity. In the case of explorers they're actually out there trying to find the entity in the first place and there's a much bigger risk.

Mrs PEULICH — So with a bigger risk, and you're recommending a shorter turnaround time, for example, does that undermine their capacity to gain finance?

Dr HOLLITT — What we're really saying is the ability to find finance is the thing that shortens the cycle time; in other words we would like to have shorter cycle times but not by government edict but by the fact that the jurisdiction attracts exploration.

Mr SCENEY — And processes are efficient enough.

Dr HOLLITT — Yes. That our processes are not standing in the way, and also that the capital is actually a very attractive proposition.

We were asked to provide some information on existing government support mechanisms, and I've tried to summarise these here, there's quite a few of them so I've tried to summarise as best I can. There's more information available either on request or on the DPI website, so this is more of a summary than anything else. I've really reported the activities that aim to support and simulate industry development divided, as you see here, into the outcomes that we might like to achieve: providing for a well-fed pipeline — how do we get enough exploration through a 15 year pipeline to development; assisting projects to emerge from that pipeline; maintaining an engaged, aligned and positive industry; and maintaining informed, engaged and positive communities.

The most effective way of doing the first one, providing for a well fed pipeline, appears to be with actual developments, by getting significant projects through the pipeline which feed back into exploration. However, there is still the need to have a very good record of what we have in the State, and also to provide for access to that record and that information. This is done by closing critical data gaps that have emerged, and when I say critical, explore things that matter so making sure that you're collecting information on things for which there's some hope. Further, we provide information on areas that may be available through tenement data, and also on existing licensees that can be approached for partnerships, because that's one way in which the link between explorers and developers is actually made. The Department also assists in some cases with particular exploration tenders, including an acreage release program that happens in Bass Strait working with the Commonwealth.

In addition, for the prospectivity that we do have it is pretty important that we attract the right explorers globally. In the minerals arena we believe there are as few as perhaps 100 explorers globally that have all of the right ingredients for ongoing success and, unfortunately, we have very few of these active in Victoria so attracting some of those cross jurisdictional entities into Victoria would be helpful to our case. It's as much about encouraging secondary markets for resource potential as it is for direct government allocation of resources or direct government spending; leveraging the very high quality information that we already have been able to assemble by drawing attention to what's in it, from a critical potential point of view, to the people who have the means and opportunity to come and develop it. This is an area of transformation for us, getting focused as much on what the explorers will come for as on getting an even better understanding of Victoria's geology generally.

When we find resources with competitive potential, it's critical that they don't languish — this area over here. Again, this is an area of focus and transformation at the moment. Given that successful developers are for the most part not the same entities as explorers, there's the need to be sure that there is value for developers and explorers alike. Government is in a unique position in setting the rules for ensuring development. It can work to ensure that there are conversations between explorers and relevant developers for areas of competitive endowment and, in the case of significant endowments where licences lapse, to ensure the capable developers are aware of the potential and then attracted onto that ground. So there's a role for Government in those spaces. For this there needs to be an ongoing engagement with industry so that information gaps don't emerge at critical moments, such as when licenses lapse; for example, engagement in a tender. Much of this work at the moment is opportunistic but there's a drive towards more planned engagement; for example, for the encouragement of farm-in opportunities between global developers and local licensees.

Once there's a development project in place it's important that its passage through the approvals processes can occur along an optimal path — this is about an efficient approvals process across government. In Victoria's mature approvals environment that involves quite a number of agencies and for that there's the need to work closely with the developer, facilitating cross-government processes, for example, in progressing an Environmental Effects Statement as may be needed. The Earth Resources Development Division has a team of facilitators who perform this particular work. Their work is currently transforming to provide navigational tools and support systems that developers can use in their own planning as well, while still providing direct project level support in cases where there's traditionally been a need.

At the industry level it's important that reforms continue that better enable exploration and resource development, balance multiple land use objectives and ensure that resource security is matched by the obligation to develop. This is an area of considerable resourcing at the moment because of the regulatory reform agenda that we're talking about. Critically, this work is conducted in close collaboration with industry, aimed at achieving strong alignment and understanding. Work includes assisting with policy positions, identifying those reforms and converting those reforms into legislative and administrative outcomes. There's also some work in this basic transformation where we're starting to work more towards whole-of-government scanning so that we

know what's happening in other government departments and are able to feed that back into the industry and work with that. It's to assist engagement with reforms and planning approaches that are happening across government. The area also contributes to Commonwealth policy development via support to the relevant ministerial council under COAG.

Finally, DPI is quite active in community engagement, and I will talk about that in a moment, but it works on the basis that it is community support that determines the effectiveness of a new mining endeavour more than anything else, and we will get to the administrative framework for that in a little while. DPI does engage in stakeholder meetings and public meetings where a need is identified, ensuring that rights are clarified and that there's a clear understanding of the plans and processes of licensees and the controls available to government. DPI recently established a new network of regional directors who work on behalf of the Department with key stakeholder groups in the regions, facilitating communications and seeking to address any emerging concerns. It's only part of what DPI does and I'll talk a little bit more about that in a moment.

We've also been provided with funding to progress particular initiatives, and those initiatives include Rediscover Victoria, which is about support to geological data availability and modelling, a thing called VicGCS, which is Gippsland basin–wide models and geophysics for geological carbon dioxide storage potential, looking to the future need that comes from fossil fuel use; and there's Clean Coal Victoria which is about planning and community engagement for the long-term future for coal. Then there's an array of other initiatives including ETIS, which you may be aware of. ETIS is the Energy Technology Innovation Strategy, a big significant investment in that area, and there are feedback loops into coal and gas in that space. There's also, of course, the CarbonNet project which we hope will be supported as part of the Commonwealth Flagships Program. It could bring a pipeline and storage network to Victoria with a significant investment.

There are other things that happen in the Government generally. There's a Victorian Government Business Office function that's run out of DBI, and this actually helps us to make our connections internationally where we need to, so where there's a need to make global connections this is a group that helps to us do this. Sometimes it's very helpful because there is support in jurisdictions where we don't speak the language or don't know the customs and cultures and DBI generally do. There's also, and very importantly, case-by-case infrastructure support, and you may have heard recently about — I'm sure you have — a rail link that was made for Iluka with $4 million of government support, the rest of it being spent by Iluka, to take vehicles off the roads and allow use of the rail network. Then there is also, as I mentioned before, policy support with the Commonwealth. That's a very quick summary of all of the activities that are there — it's probably not all but as many as I can report on one page.

The best known examples of effective marketing of the potential of a jurisdiction is South Australia and there are some good lessons to be learned, I think, from the South Australian experience, so I thought we might just have a look at that case study for a moment. The interesting thing is that when we look at exploration we should probably look at it from the point of view of exploration intensity rather than exploration dollars, the dollars spent per square kilometre, because Victoria is a small jurisdiction and you wouldn't expect it necessarily to have the same expenditure as a much larger jurisdiction.

If you then actually plot Australia from the point of view of dollars per square kilometre in greenfields exploration data that's been available since 2003, this shows all of the Australian jurisdictions on the same measure. The deep blue is South Australia. The interesting thing is where they started from. They almost had nothing going on out there and they decided as a jurisdiction that they needed to change that so they introduced the PACE SAMPEG program — which I believe you may be familiar with — in about June 2004. These were programs targeting exploration, they made it clear our objective is to increase greenfields exploration in South Australia and have that translating all the way through the pipeline. There was a bit of a lag, then you see an acceleration that coincided with the global commodities boom, but the acceleration was much higher than in was in other parts of Australia and, secondly, while the GFC hit other people substantially, making them come down and even not fully necessarily recover to the full peaks in many cases, South Australia had a very short hit from the GFC and then moved back to where they were previously.

One of the clearly measurable objectives of the South Australian programs was an increase in exploration, and South Australia has clearly met that objective, admittedly starting from a lower base. The reasons for this have to do with a determination to engage with a global industry that commenced with that PACE program, including the very important SAMPEG — South Australian Minerals and Petroleum Executive Group —

outreach component. In this initiative they actually got executives from the mining industry, well-known names, to go out there and promote the State's opportunities based on things that they already had that they thought the models could be extended for.

In the Allen report that I was talking about earlier, the South Australian program was reviewed alongside Victoria's initiatives, and so they had a quick look at that. This is a quick summary of where the effort was measured in dollars. The first thing was the program had a sense of balance about it. The warm colours there are all part of an outreach program, and the cooler colours there are to do with the geoscience programs that they ran, so there was a sense of balance looking across the entire pipeline and at all barriers to both exploration and development. An example of that is drilling support. This drilling support here is really drilling collaboration. The number of parties that ended up with drilling grants in South Australia as a result of that program was 168 out of 335 engagements. That's a very impressive number of engagements.

Mr FOLEY — And engagement means an application?

Dr HOLLITT — Yes, but also more than that, that they were actually out there talking with these companies. One of the other distinguishing features of the South Australian program was they put their geologists out on the drilling rigs of the people involved so there was lot of feedback backwards and forwards. This is possibly one of the reasons why some of these programs work sometimes and they don't work, that it's all about perceptions and engagement — it's not necessarily rational, as you mentioned before — but this is as much about marketing as it is about anything else.

As I said, the issue of global credibility was handled by the SAMPEG group. The features of the South Australian success that most stand out are its clearly proactive and engaged nature and its systematic focus on the entire pipeline from exploration development, and that was taken with the support of seasoned industry professionals, so the program had a lot of boxes that you could tick. I don't think the benefits of this program have yet flowed through to economic output, because if there's a 15 year lead time, and these programs only started in 2004 — and from an exploration point of view a couple of years later in about 2006 — then you wouldn't necessarily expect to see an economic output from operating mines at this particular point in time.

Mr SHAW — Michael, with the South Australian activity, who are the drivers for that?

Dr HOLLITT — It was very much a partnership.

Mr SHAW — So their DPI over there; is that right?

Dr HOLLITT — Yes, Primary Industries and Resources South Australia, which is the equivalent of ours.

Mr SHAW — Are you looking to model that in Victoria?

Dr HOLLITT — Certainly the idea of engagement, and strong engagement, is something that's been a key thrust in our activities in the last 12 months; we're leading much more strongly in that area.

Remember I said before that if you have a high area of land then the proportion of your GSP that's going to come from mining is generally going to be higher, and this graph reflects that. The interesting thing is to see where South Australia has been in the last 15 years on this, and you will see they're under saturated, their output as a proportion of their economy is actually still under saturated today, and you would say isn't that an indicator that the program didn't work? I'm saying no: cause and effect are not closely related in time.

If you actually have a look at greenfields minerals exploration against the GSP contribution for minerals and petroleum, there are two things of interest there. The first one is there appears to be a rough relationship, which is again feeding back on success breeding success. Success in economic output drives back to success in greenfields exploration.

The second thing is to see how high in the scatter South Australia is so they're actually sitting up there nice and high from an exploration point of view despite the fact that they haven't yet seen a saturation, as a proportion of their state's output, from mining at this point. As I say, I think that that's simply because of cause and effect separation and I noted that another presenter to this inquiry has made a similar comment that South Australia had been plugging away for a long time but that mines are at this point few and far between. That's not surprising because you have to plug away for a long time. The clear message from this is maintaining a healthy

mining industry is a marathon, not so much a sprint. And South Australia has entered that marathon; they're running hard in it at the moment. You can see how as fast they're running but it hasn't yet ended.

This chart presents the outcomes from the Fraser Institute global survey of attractiveness of jurisdictions in a manner that is, what I find at least anyway, quite instructive. As others have mentioned, this PPI Index — Policy Potential Index — the vertical axis reflects the perceived ease of doing business in jurisdictions and is often seen as a reflection of approvals processes. Perhaps not surprisingly, Victoria is here within the Australian range in this dimension. It's not the lowest in Australia but it is quite low within the Australian range. But the Australian range is actually quite high in this measure so it's important to always bear in mind that distinction. When you look at it you see there's still a best practice gap between us and the best jurisdictions in Australia as perceived and therefore we have some work to do in that space and I don't think we should be shying away from it. But when you actually look at where the big challenge is it is sitting there in prospectivity. That's where we have a really significant piece of work to do. Again, I'll just draw attention to this line here where you've got the iconic mines and the deposits, the red dots all mainly sitting on one side of that particular line. Victoria sits within the Australian group for potential policy index but when it comes to mineral prospectivity the rest of Australia is all out here and Victoria is sitting back there. So our lack of success is breeding further lack of success, or another way of looking at it is success will breed success.

Although Victoria is not seen as best in the Australian class in red tape and approvals, the one thing the Fraser survey does show is that there's actually not a lot of room for improving from improved policy settings. It doesn't mean that they shouldn't be improved — of course they should be — but what it means is that the prospectivity issues dominate and therefore the room to improve from reducing red tape is less than the room to improve from a global prospectivity point of view. I note that other submissions to this committee have also made it clear that if we only change the rules and regulations we're probably not going to win and also this same comment, which is the best indicator of prospectivity, is a recent success, that's clearly moving in the right direction.

From what we have seen so far, the best driver of future success will be current developments and if we wait for a new tier one development we're going to be waiting a long time, given our present exploration rate. Mine development relies on discovery, not just of interesting mineralisation or very large deposits but on the competitive nature of that mineralisation, the so-called world-class resource. An understanding of competitive potential of resources provides a clear focus for particular efforts that might stimulate development. An example of this — and I'll be using this a few times as we go through — is mineral sands. These blue dots here are the most recent projects globally, these red ones are Victorian resources. This is an indication of a large competitive endowment that we need to be sure we are getting developed, it has got potential to make a change across the entire value chain.

Mrs PEULICH — Where are they mostly?

Dr HOLLITT — Mostly in Western Victoria.

In summary, an outward and systematic approach seems to work best. Geological data and the information relevant to competitive potential; competitive, coordinated and accessible regulatory and approvals regime are important, but if you only have those things you're not going to get there. The things that you also need are: outreach into the global industry; to understand our competitive position; to develop policies and programs to attract appropriate explorers to our small area to provide what we need in terms of investment in that area; and outreach into the community: making sure that we've got active engagement based on benefits and rights and that we can build community confidence and the effective use of land area — maximising value by ensuring that the people who are working on our ground are actually financially capable.

That leads us into Victoria's regulatory environment. Our paper talks about the two step approach to licensing in Victoria; the first step being to get people the exclusive right, the second step being making sure that they get all the approvals that they need across all of the government agencies with all the referrals that are necessary to undertake a work plan. Particularly a very interesting part of that is the need to have community consultation as part of the work plan process, so the work plan includes the community engagement plan.

Without wanting to get lost in this, and I certainly won't, this is a quick summary of Victoria's regulatory framework. You can see that there are 15 legislative frameworks, in addition to regulatory instruments, having

impact on mining approvals. It is a mature jurisdiction with a mature legislative framework looking at balancing the rights of everyone in mining and also in land use across the board. There are certainly opportunities for reform to remove red tape. In any mature environment having this number of inputs there's always going to be the opportunity to do something there. There are some reforms that take various forms, including memoranda of understanding between departments of how administrative processes work cooperatively together, improved approvals information and monitoring systems, changes in the machinery of government accountabilities and ultimately in changed legislation, regulations and guidelines. Generally the regulatory reforms that are made are consultative with industry and across government.

Recently there was a comprehensive review conducted by KPMG of the recommendations made from seven processes looking at regulatory reform targeting reduced red tape between 2004 and 2009. Rather than go into that there's going to be a whole-of-government response to that, as I understand it, but I merely draw it to your attention today.

Mrs PEULICH — Do we have a timing on that?

Dr HOLLITT — It has already been released. It was actually commissioned by the Minerals Council and they asked for our input along the way, but government has undertaken to respond to it, and I don't know the timing of the government response but I understand it's a priority. The report itself that was commissioned by the Minerals Council is available now.

I think you know our principal Act has two main approaches in it: the first relates to licensing, work authorities and compliance, which are basically about making sure that our licensees have secure access to land and that they get to work with programs that are consistent with our standards. The second thing is to encourage active development within the limited condition forming powers of the Act, and this is about making sure that people are actually active. So those are the two main areas within which the Act has authority. I'm not going to go though all of the relevant provisions in the Act today, and there are quite a few of them, or even produce a summary, unless somebody asks, other than that high-level summary that I was just talking about there.

There is a reform agenda in relation to the MRSDA review — that is, of our principal Act — and there are actually two main aspects of that. There was a phase one review that resulted in the MRSDA Amendment Act 2010, and this focused primarily on the modernisation of licensing to align with industry practices. We added a whole new type of licence: a retention licence that gives people security providing they're meeting their obligations to develop. This made up for a hole via which people would have to stand on an exploration licence in which they perhaps were not doing exploration, or stand on a mining licence in which they were not doing mining, in order to do work in the evaluation stage of the pipeline I was talking about before, so we've managed to fix that. Phase two is targeting a further set of amendments in 2012 to streamline the approvals processes, improve the planning process and address inefficiencies. That is work in progress. The policy position for that hasn't been finalised yet, it's in late stage development and the target is the end of 2012.

Phase two: some of the important areas of discussion that we're looking at at this moment but not yet turned into policy are: a lead agency approach with whole-of-government advocacy and navigation; work plan requirements, simplifying some of those, and work approvals processes across government. The lead agency work assists with some of those, but also there are also some issues associated with ensuring that inappropriate requirements are not attached to the activities they were not designed for. Also included are planning matters and resource stewardship: how can we be sure that in future there's the right balance between access to land for mining purposes and the need to provide for access in other areas of activity? Rehabilitation bonds are also a focus. We are having a bit of a look at some enforcement processes, and also at low impact exploration, just making sure that that's well understood as having low impact and therefore needing fewer controls than would potentially be there for a higher intensity activity. There's actually a website that has the information on the discussion papers associated with the review of all these areas of reform.

Mr NOONAN — Can I just clarify, this will all be addressed in the second phase of the review in terms of the amendments?

Dr HOLLITT — Yes. The policy position isn't clear yet but it will all be addressed in the process of the review.

Mr SCENEY — I think we should add, though, that the review and the outcomes of that review are being captured not just in legislative change but also in a number of policy developments that we're working on and so there will be elements of that program that will be administrative or policy orientated as well.

Mr NOONAN — I think we'll probably have more questions about that later rather than hold your presentation up.

Dr HOLLITT — I did say that we would talk a little bit again about community engagement. One of the things that is perhaps not as commonly known as it should be is that Victoria has a unique legislative requirement for licensees to engage with the community — it's actually not there in the legislation in other states. There is also a requirement in our legislation that community engagement plans are produced for work plan approval, so in the second stage of the two-stage approvals process.

The other things that the Department does are training and advice to licensees, including information that's made available, such as consultation guidelines for licensees. The Department also makes licensees accountable to their work plans. There's a communication program that's about the clarification of rights of licensees and landowners. Do you have the right to, for example, preclude access for explorers? The answer to that is actually yes unless there's negotiated consent or a compensation agreement that has been put in place. Some of those rights are not clearly understood in many cases so there's an important communication program going through there, and also communication of things like, for example, that exploration does not commonly result in a mine. This is an important thing for people to understand. Also, as I've mentioned before, we have the two-stage approvals process with community consultation required through that second stage of that process. In addition, there are a lot of notification requirements that are in the Act and under regulations pursuant to the Act, around making sure that people understand what's about to happen.

I just wanted to move on to: do we have opportunities in Victoria? I'm just going to focus on the ones where I think we do have the highest level of opportunity associated with the work we have been doing in the last 12 months and try to understand these from a competitiveness point of view, from the market point of view, and the point of view of the needs of Victoria. If we first look at oil, conventional gas and gold, we think that there are some opportunities to maintain our production in conventional gas. We think that oil, unfortunately, isn't going to have a resurrection. In relation to gold, it would be good to see some new models out there and some new developments occur but that's not happening at the moment largely because of the nature of Victorian gold as it is understood compared with gold globally.

In the case of geothermal, we have the issue which is the market isn't there to drive equity into geothermal developments at the moment, and the energy market in Australia is now a national market, so it's not something that's easy for a state government to create incentives to work in that space of geothermal. Then we have the commodity areas that by subtraction are the ones that therefore we can continue to pay high attention to. In unconventional gas, there is the opportunity to increase Victoria's resource base for its own needs. In relation to mineral sands there's a large export opportunity. In relation to coal we have a resource that's been a mainstay for Victoria's power production; it's a big resource, it still has some potential, but we are working in a different environment to the past. Then we have base metals which are much further out there from the point of view of a really big outcome: it's really very much a prospectivity/exploration play at the moment, but we think that Victoria may have some potential.

I wanted to quickly just go through each one of those higher potential areas. In minerals sands, as I showed you before, we have apparently a competitive unconventional resource so the trick is to make it happen in the way that has happened for so many other unconventional resources over the years, including many of the resources that supply the mineral sands industry today, to bring it into the conventional. If you actually have a look at why we say there's an opportunity, the stars are really lining up. Look at the gaps here — this is production in titanium minerals, these are the new projects that are understood out here, and this is the gap between demand and supply that's emerging. The same thing is there with zircon, there other main mineral sands product. There are some really big statements that have been made in the last months by the chief executives of the companies who dominate this industry basically saying: 'There's been little new capacity investment over the past decade. Major ore bodies are nearing depletion, and bringing new ore bodies on line will not happen overnight. Much of the new capacity will only cover the growth in demand from China alone, not other growing markets such as Indonesia and India'. This is an area where the stars are lining up.

We have the gas situation. The interesting thing is that all projections for Victoria's gas demand going forward indicate large increases in demand, and in fact in the draft Energy White Paper that was released yesterday the Commonwealth came out to say that a lot of new power generation in Australia was going to be gas. That's what all the analysis is showing. Victoria's gas demand is expected to double by 2030 as a result of that. Our current reserves are going to be depleted somewhere between 2025 and 2030; what happens is you start reducing output long before your reserves are depleted so this actually has a more near-term effect. We need to be looking at three possible sources of local supply: conventional gas, looking for more of what we've already found, but there's a limited potential for that, unfortunately the discovery rate is limited. Then you've got shale gas and tight gas onshore and you've got biogenic coal seam gas onshore. These are opportunities that we don't understand fully yet. There have been some publicly reported intersections, there's quite a lot of exploration, as you've seen, but no reported reserves. It's actually quite difficult to get some of these up, the criteria for success are often quite narrow, so we don't actually know whether there will be reserves, but we see it as an important thing for Victoria to pay attention to.

Then we have coal, and the big thing about coal is just this change in context. While we have the change in context in relation to carbon prices there's a lot of other change in context as well, including the now national energy market, the need for new power stations that are going to come along, and the rise of gas in power generation, so there are actually quite a lot of things that are complicated in relation to coal. Then there's the potential for the coal to be converted into other products that can be used for low emission purposes overseas. The main point of this is to show the complexity of all of the possible outcomes — there are a huge number of pathways and as a result of that this year the Government conducted the coal road map to try to find the most effective pathways.

Mrs PEULICH — It looks a bit congested.

Dr HOLLITT — Yes. The final road map won't be looking like that. It will focus on the best competitive opportunities, the major arterial paths. The report on that is expected to be available towards the end of this year and therefore available generally next year.

The CHAIR — Towards the end of this year?

Mr FOLEY — That's next week.

Dr HOLLITT — I didn't mean to say publicly available within that time, but to be available within government.

I'll try and finish now. The other area of opportunity that I mentioned is base metals. There are new models to do with how the Australian continent was formed that indicate that Victoria may have had a thing called subduction zones. These subduction zones are formed by the collision of tectonic plates, and they're associated with particular types of base metal resources under some circumstances, big disseminated resources. We've only just begun to understand this; the potential is for us to be out there and looking for base metals in particular, but what also potentially comes associated with this type of geological history is disseminated gold resources. I can't say this is going to happen tomorrow — in fact one thing I can say for sure is that it won't happen tomorrow, given the amount of time that it's going to take to find one of these things. They are clearly not found every day, there needs to be a lot of exploration.

I suppose it is really a happy note to finish on, which is we don't think that geological and development history is something of the past in Victoria, there is no necessary reason to believe that. It's a matter of continuing to look at new models, keep working on them, and making sure that the development end of the pipeline happens to come back to encourage new exploration and development.

The summary, I guess, is pretty much the same summary as we had in the submission, that earth resources is small but valuable in Victoria and there's high use of products within Victoria itself. The sector has overall declined with depleted resources not being replaced. Greenfields exploration, unfortunately, remains subdued. Our area is at a premium. However, in the last six months there have been some improvements, some upturn in exploration, and we would like to think that might have been as a result of some of the changes that were made in the regulatory environment, but it's a bit early to tell. If it continued on that trajectory for the next few years it would be a very good outcome. Prospectivity is, unfortunately, perceived as low. We have the opportunity to leverage best in class data and there's active regulatory reform in Victoria. Promotion requires active

engagement; we actually need to go out there and promote these things, not just by putting out a leaflet to be sent to people but by active engagement. We do have significant endowments, it's not that we have nothing out there that could be developed. Those mineral sands resources, for example, have enough in them to keep the entire world fed for 20 years — and we won't get the entire world — so you can see that these are significant resources.

We do need to make sure that our licences are actively worked. Our new legislation is coming into effect in February next and that will give us the ability to better achieve that. And absolutely, community engagement is acknowledged as critical for the success. That's the summary of what we had prepared for today. Most of it, I think, is probably in our submission but we've tried to cover the specific questions that we've also been asked.

The CHAIR — Thank you very much. Not wishing to speak on behalf of the rest of the Committee, this inquiry has been quite a moving feast and certainly I've had some of my perceptions changed considerably since we began and South Australia was certainly a big eye-opener for us. The summary of what I took out of parts of what you said was we needed more targeted marketing to a more targeted bunch about our enthusiasm for what we have here and to give us our mine share across the globe. It begs the question about what government support is needed to do those things. It seems that from what you've said that the geoscience space is fairly well catered for and happy with that. What about areas of co-funded drilling and geothermal areas, what's your view on those?

Dr HOLLITT — Victoria's experience with co-funded drilling is actually well recorded in the Allen report, which said that it didn't really work for us and part of the reason was because it wasn't engaged appropriately. I think also if you already have great understanding of what's out there in your backyard there's a question as to whether the group approach be that effective. In South Australia it's used largely as a marketing tool and an engagement tool. I think if it is to be successful at all, it needs to certainly have that character to it, which ought to be the main focus. There is a risk with co-funded drilling programs that you simply displace exploration expenditure that was going to occur anyway, so you do need to be very careful in those programs.

In Victoria the co-funded drilling program only supplied less than 3 per cent in each year it was running to the greenfields exploration budget that was spent in the State, so it's perhaps not particularly surprising that we didn't see a big stimulatory effect from that. Other places are not having any trouble attracting private equity funding in what they do rather than government funding. It's just a question of finding the keys to that box. I think it's probably fair to say that in the Department we have conversations about co-funded drilling and we have trouble finding that it could be successful by itself.

Mr FOLEY — Thanks, Michael. I agree with the Chair's assessment in terms of the path the Committee has been along, particularly you've supported the ideas in terms of South Australia and as a result of our visit to South Australia very much being the cutting edge of some of the changes that you are referring to, certainly in Australia and, from what level we see on second-hand material, probably internationally as well.

If I could relate this question in the first instance to Michael and in the second instance to Doug. The Phase two review of the MRSDA that you talked about in your presentation is going to be finalised by this time next year. This committee's report is due in early May next year, with a government response of up to six months. What will be the prospects for this Committee's review to feed into your assessment into that final government position and how far on those range of issues that you've identified has the Government's policy and regulatory review progressed to date? We did receive some submission from one of the stakeholders that a substantial amount of work had been done already, equally both with the Minerals Council of Victoria and the prospectors, so each end of the spectrum if you like, indicating that it was well down the path, so that's one — it might have legislative policy bits mixed up in there.

The other question I had was: does the Government identify a hierarchy of land use priorities? Given the conflict of that number of small land uses and various issues such as relatively low population and the perceptions of prospectivity and opportunities, does the Government have a formal position on identifying a hierarchy of land use priorities and where in the relative position of those would the minerals, agricultural production, residential land use, and open opportunities of natural environmental values be placed, and is there any policy position underpinning those?

Mrs PEULICH — [inaudible].

Mr FOLEY — I thank my colleague for her assistance, as always. She's actually shown up today, which makes it a benefit for us all.

Mrs PEULICH — You're just a nasty piece of work.

Mr FOLEY — Lead with your chin.

Mrs PEULICH — I don't lead like you.

Dr HOLLITT — On the first question in relation to the Committee's output, the answer is that policy positions have been through most of the consultation processes at the moment and so therefore they are, as you've suggested, quite advanced. Having said that, though, I believe that having seen quite a few of the submissions to this inquiry. I think a lot of the issues that are raised and spoken about and that we spoke about today are not issues for legislative reform and these were the things that Doug was talking about before. A lot of the things that we were talking about are just changing direction in the approach of the Department rather than in having a legislative background for it, so I think there will be high value to the outcomes from the Committee even if they can't find their way into the timetable for legislative reform. My personal view is I don't know of anything at the moment that we would need to do from a legislative reform point of view to give effect to the outcomes. Doug, do you have anything further?

Mr SCENEY — No, I think you've said what I would have said to a T. From where I sit, at least as much of the reform program that we have before us at the moment will be administrative or policy orientated as it will be legislative, and in fact in some ways what we do in relation to improving policy, establishing better relationships and processes between government departments, improving the way all of that works, can potentially give us bigger gains at this stage, I would suggest.

Dr HOLLITT — Your second question was about hierarchy of land use. Things present in our Act at the moment are relevant to hierarchy of land use. If an agricultural land user can show that the value of the agricultural production that's going to be impacted by mining taken over time was greater than the value of the economic output net of other impacts, then they actually can get an order that says that mining can't proceed.

Mr SCENEY — It's worth pointing out that the hierarchy you're talking about is also in our land use planning system; the Planning and Environment Act and the Environment Effects Act are the two acts that determine whether any project goes ahead.

The CHAIR — Not clearly understood, I suspect.

Dr HOLLITT — That's correct. Victoria has a mature and balanced approach to mining land use. The other thing that's probably worth recording — in case nobody has made this point to the Committee — is just how little of Victoria is actually covered by mining from the point of view of its area. It's well less than .5 per cent and the last number I saw was .27 per cent, this is by mining and extractors, it's really, really low.

Mrs PEULICH — And extractors?

Dr HOLLITT — And extractors, yes. It is really quite a small number.

Mrs PEULICH — I don't recall [inaudible].

The CHAIR — We've looked at the graphs and obviously they're significant.

Dr HOLLITT — Certainly we have large parts of Victoria allocated for exploration, but because so little of that turns into mines it doesn't end up in a significant contest for area when it comes down to it. It's the perception that exploration will necessarily lead to mining that creates a lot of the land use concern.

The CHAIR — Do you have access to a solid figure on that anywhere?

Mr SCENEY — It's very hard to be more precise because the figure we're talking about is the area affected by work, which is an area within a licence, so it's of itself not strictly defined.

Dr HOLLITT — It's not the licence size, we would have to go back and do some aerial photography and a few other things.

The CHAIR — Can you have that done this week?

Dr HOLLITT — We would have to look at what our options — —

Mr SCENEY — I would think that we would take that one on notice. There has been work done Australia-wide and I think in Victoria in the past on the number. I'm not sure — —

The CHAIR — Best estimate.

Mr SCENEY — I'm not sure whether we could guarantee its accuracy but we might be able to find some examples.

The CHAIR — The best estimate would be closer than what we currently have.

Mrs PEULICH — First of all, the decline in the turnover of licences from 2003–04 to 2008–2011 indicated on one of your graphs, what was the cause for that?

Dr HOLLITT — It was mainly the global financial crisis and our lack of resilience to bounce back from it.

Mrs PEULICH — Secondly, identifying the opportunities in relation to the broader legislative framework, particularly federally, what will be the future of Victoria's coal industry and is that going to be predicated on domestic use of energy generation or is it going to be predicated on export?

The CHAIR — Ears pricked up all around the room.

Dr HOLLITT — I'm pretty sure that the answer to that is a complex one.

Mrs PEULICH — But there's no one better able to answer it than you.

Dr HOLLITT — Well, possibly there are, but I'll have a go anyway. It's not clear at this stage which way that's going to go. It depends an awful lot on gas production, I think, and it depends on the cost of the alternatives as to whether or not a clean coal option involving geological carbon storage could work economically for provision of power, so it depends on the relative costs of the various technologies that are out there for generating power in the future. There are some technological advances that look a little bit interesting in that regard but it's — —

Mrs PEULICH — In relation to gas?

Dr HOLLITT — In the very early stages, for coal, that would produce a lot less carbon dioxide emissions if it was used in a particular way but it's very, very early stages for that. The other work that's been done so far has highlighted that if energy prices go up very highly then the coal can be used with geological carbon sequestration for producing power, it depends if the prices go up high enough. There's the other possibility of a more affordable outcome that will be delivered by different technologies than the technologies that are out there at the moment. As I say, that's a very early stage development. Looking then to opportunities for export, this is a very, very large — —

Mrs PEULICH — Sorry, can we just go back perhaps to that first bit. You've obviously had some analysis in terms of its likely impact on coal, what is your information suggesting the most likely impact on Victoria's coal industry sector?

Dr HOLLITT — The most likely impact on new investments in the short-term, because the energy prices are not going up that fast with the carbon tax, there will be some issues with creating a competitive outcome. In the very short-term, in existing installations, coal is possibly going to compete because of the only other alternative is putting in gas-fired power stations, and gas-fired power stations require new investment, substantial investment, which causes the price to go up.

Mrs PEULICH — How much new investment?

Dr HOLLITT — We haven't estimated what that would be but I can tell you that the best estimate for the cost of gas-fired power is somewhere between $1000 and $1200 per kilowatt of installed capacity, so the sorts of investments that are needed are very high indeed and there's the need to get a return on those investments. I think in actual fact the Commonwealth provided a good summary yesterday saying that it's inevitable that energy prices will go up simply because of the need for this new investment that's going to occur. Victoria is in the same position relative to that, so in the short-term when energy prices go up and the carbon price hasn't yet cut in to exclude current power producers, there are actually in the short term potentially some new opportunities associated with it. In the medium term, there will be — —

Mrs PEULICH — For investment of the new power generation?

Dr HOLLITT — For new power generation it's difficult.

Mrs PEULICH — Is that likely to come within the timeframe that's allowable?

Dr HOLLITT — It's difficult to imagine, I must say, with just market forces at work, it's difficult to imagine a new investment in coal-fired power. For me personally it's difficult to imagine that, just simply because the right circumstances in the longer term are what's needed to generate a new investment, and those circumstances are not the ones that I was talking about in the short term, so I think it will be difficult. It will be difficult to get new capital investment into coal-fired power in the immediate future.

Mrs PEULICH — And into other energy generation. Where are we going to get that investment?

Dr HOLLITT — Yes. The investment for alternative generation will, by definition, fall back into the next most affordable and the next most capable of producing baseload power and there aren't too many options outside gas in Victoria, especially since we're connected to the east coast pipeline which means gas is going to be available to us even if we don't have our own. So the answer is — and I hope I've been as clear as I can be under the circumstances — but I think the answer is not that clear, other than to say that new coal-fired power definitely has some challenges associated with it because of the long-term outlook, and the need to benefit from capture and storage of carbon dioxide, and that needs much higher prices for both power and carbon credits to compete.

Mrs PEULICH — And lack of certainty, is that going to impact on it?

Dr HOLLITT — Yes.

Mrs PEULICH — So the second part being export?

Dr HOLLITT — Yes. In relation to exports we have a very, very large coal resource in Victoria which has never been utilised to its resource potential, not even close. We have perhaps 30 billion tonnes of coal, something in that order. There are different estimates, some people say 17, some say 30, some say 60, but it's a very, very large amount of coal resource not being used to its resource potential right now. There has always been the opportunity for us to develop something that would result in exports so the question is what circumstances will produce those opportunities for export, and the evidence is that oil prices need to be significantly higher than they are today for us to convert that coal to something for export.

The coal as it stands right now is not transportable. We don't know of any means of directly putting it on a ship and getting it to the other end economically just because of its low heating value, so therefore anything that had the impact of converting our coal to an exportable product would be something that upgraded it substantially, whether it's to a liquid product or a carbon based product, either way it would be upgraded substantially. The carbon dioxide emissions associated with those upgraded products in use will be a lot lower than they are associated with the traditional power use of coal in Victoria that's here now. When we look at the opportunities that come, therefore, in export potential for the coal we have to look at competitiveness, that's the most important question — export is all about competition — so we have to look at things that are in our coal that will provide for that competitive position.

I think there is some potential in that space, but you have to look at things like, for example, a unique characteristic of our coal is if you put it into super heated water it will divide into oil and carbon and water. Of course, that oil is worth many times on a unit energy value basis than the coal that you started with and the

carbon, so if you can find an effective way of taking advantage of that characteristic that will be something — and I only raise it as an example. There are other characteristics in the coal, but they have to be unique in order for it to compete with other coals of higher heating value. Similarly, the very high oxygen content in our coal is a unique characteristic that provides for opportunities to convert it into precursors for higher value products with overall costs that compete.

The CHAIR — Which aren't yet apparent.

Dr HOLLITT — Yes. So I hope that's answered your question. It's not all together clear.

Mrs PEULICH — You don't have a crystal ball. Thank you.

Mr NOONAN — Thanks, Chair. This is a question for Michael, I suppose. There was a piece in the Australian Financial Review on 8 October about this inquiry and the future of mining and you were referenced in that piece. The reference was that at a mining convention in Melbourne you stated: 'Victoria will have the world's most liberal mining policy'. Was that a correct quote?

Dr HOLLITT — No, it wasn't. 'Most liberal' was not what I said at all. 'Most modern'.

Mrs PEULICH — What was the word?

Dr HOLLITT — 'Modern'.

Mr NOONAN — Can you explain what you mean by 'modern' and whether you're still confident that you can deliver on that statement?

Dr HOLLITT — The statement was that we had the most modern licensing regime in the world as a result of the changes that had been made in the Mineral Resources Development Act in 2010. The reason for making that statement — which was in the presentation itself — was that there's no other jurisdiction that I know of that has the same degree of alignment between industry processes and government processes. An example of that is as we move from one licence type to another in our three licence systems, we actually move up in the definition of the resource from inferred to indicated to measured. These are the industry definitions so basically we're in a position where there's no additional regulatory burden associated with aligning ourselves with that.

It also provides for people to do their evaluation work in a way that's consistent with the intent of the legislation. There's an alignment with the processes of industry associated with doing feasibility studies so industry normally goes through a conceptual study, just to find out whether it has any potential at all. We move from that to a pre-feasibility study that would normally be associated with an indicated resource, and then it moves onto a full bankable mining feasibility study, and that's usually associated with at least part of the resource having been converted to a measured status. Our Act is completely aligned with those processes and that was the reason for my comment so, yes, I did notice that misquote. Unfortunately, with journalists there's nothing you can do after the horse has bolted to correct them.

Mr FOLEY — We have noticed.

Mrs PEULICH — Which journalist was this?

Dr HOLLITT — I think it was Brendan Law.

Mr NOONAN — Just in relation to this — and I'll let other members have a go at this — have you been given a directive to deliver that modern policy framework that you referred to earlier this year?

Mr SCENEY — This is the legislation.

Dr HOLLITT — It's part of the legislation that commences in February and so it's a matter of us just giving effect to it administratively when the legislation commences in February.

Mr NOONAN — I think you probably misunderstood my question. If the policy work is still going on — I'm just trying to come to terms with why your statement is absolutely so clear in respect to that issue when indeed it's still essentially a work in progress?

Dr HOLLITT — It's the two stages of it. The first stage was about the modern licensing environment. Stage two doesn't actually affect licensing, so since stage one has already been enacted it is for all intents and purposes a finished piece of work rather than something that can still be influenced. I don't know if that helps.

Mr NOONAN — Just to clarify, thanks.

Mr SHAW — I know how the media can take you out of context. You said the conversion rate is good in Victoria?

Dr HOLLITT — Yes.

Mr SHAW — You said we are well endowed with resources, and also said that we have high quality information data. Why are we looked upon so poorly?

Dr HOLLITT — From the point of view of prospectivity, which is the big gap — there are two gaps, there's a gap in the way in which our approval processes are seen compared with the rest of Australia, that's clear. It's a fairly small gap — we're still within the Australian group compared with the rest of the world — but it's not a gap that we're ignoring; a lot of our reform agendas are completely associated with that gap but the other one is the gap in perceived prospectivity. If your work is mainly about data collection and providing a good system for access, there is nothing in that that says that you are out there interfacing in a leveraged kind of way with the people who can make use of that data. The world is a really big place and there are lots of people out there who have got really good data and lots of opportunity. How do you distinguish yourself in such a way that you bring explorers to your jurisdiction? The answer is that it appears that others are doing the marketing job a little bit better than what we have been traditionally and leaves open an opportunity for us to do something. There are no guarantees but what I can say is that I think there is quite a bit of movement in mineral sands at the moment, as there should be given the present circumstance, and that's an indication that we should have some hope and we should be working harder.

Mr FOLEY — One of the consistent propositions that has come through from the exploration sector is a one-stop-shop proposition. We've had lots of suggestions as to how that might look, who might be the agency and how within government that might operate. Does the policy work that you're undertaking at the moment deal with that issue and, if it does, is DPI proposed to be that one-stop-shop? If that is the case, or if it isn't the case, what's the view as to DPI as essentially the regulator, if you like, the holder of the resource, how does that sit with a facilitation arm of things in terms of structure and role of government? We've had conflicting advice as to whether it should be DPI, whether it shouldn't, whether it should be one of the arms that's brought into that one-stop-shop and whether it should be an independent of, if you like, the owner of the facilitator of the development. Just generally has that issue been dealt with in your reviews and what's the current thinking of your department?

Dr HOLLITT — We've certainly had to consider that issue and I would like to distinguish perhaps the one-stop-shop from the lead agency because they're not exactly the same thing. Lead agency is more general; one-stop-shop is a very special case of it, so I would like to make that distinction. The one-stop-shop is essentially one agency making all of the decisions across all of the approval processes and bringing all of the agencies together but basically they're still a decision-maker within that agency. That's how it works in some places. We're not so keen on that approach for Victoria because we don't like the sense of balance that that leaves out. Your question is, I think, very central to that, that it is about balance, and in the end it's about retaining the right image in the community. The community needs to see that balance right out there. Victoria has a high population density, it's actually quite good land for all sorts of different uses. The one-stop-shop that works in an under populated environment may not work in an environment such as ours so the lead agency is an approach that says we'd like to have most of the benefits of the one-stop-shop without that disadvantage, and most of the benefits of a one-stop-shop can be had simply by ensuring that there are proper project planning arrangements put in place for the way in which a project passes through government.

The big gaps at the moment that we've seen are that if you were, for example, a Canadian explorer thinking about coming to Victoria for the first time, the big gap that's sitting out there is understanding our systems and how to come into Victoria in a sensible and timely way given the legislative framework that I showed you before. You can see that there are multiple entry points, there are multiple things to be taken into account, and by yourself you don't get much of a feel for how to go about navigating that. One of the things that we want to

do with the lead agency is to make it perfectly clear for somebody who comes in in that way that here's how all of government works, and that's a good role for that in relation to mining because there's no other part of the Government that would do that work. I don't know if that's a good enough answer.

The CHAIR — Certainly my understanding of the South Australian model was more along what you're speaking about than the one-stop-shop that I had anticipated before we there. But then we spoke about the one-stop-shop in South Australia — —

Mr SCENEY — That's the more common model if you do look closely at the way other places work. As Michael said, it would be quite challenging to create a true one-stop-shop and you might question the benefits and why you would make that investment for a particular industry. I think there are recognisable counter-arguments about the special attributes of the mineral resources sector.

The CHAIR — I thought one of the most important things that we found was that with a facilitator agency you really only had to give the information once; it's not so much that you started afresh each time you went to a department or a different area, it was more about you've given us the information, now we will help you go through.

Mr FOLEY — To back up on what the Chair is saying, a common theme has been the regulatory delay process, lack of consistency, different policy approaches from different agency approaches from a policy and legislative basis which reflects the many demands. One of the benefits that was put to us by the lead agency one-stop-shop was the shortening of the improvements process without losing the integrity of the differences of approach. Is that the sort of approach that you're looking at?

Dr HOLLITT — Precisely.

Mr FOLEY — It's been put to us there are at least 15 different agencies and pieces of legislation so how can you reassure us on the issue of consistency of making sure that none of those would be discounted?

Dr HOLLITT — Because the decision-making power will still reside where it resides now; there shouldn't be any discounting that occurs because any shortcut that somebody might have taken would be found out in the final stage of that approval. I think there are ways within which a lead agency might not work, unless we were careful with it, because it depends on really strong cooperation across the government departments in meeting the demands of the project management tools that are produced for that set of approvals processes, in meeting what they actually say is possible and achievable. I think that level of coordination is necessary and therefore it isn't only a matter of having tools, it's a matter of having facilitators who are actually active and making sure that those timeframes and the processes that have been laid out are actually being applied in a cooperative kind of way. Some of that is actually being done at the moment, at least notionally, by memoranda of understanding between the departments so once you've set up the right tools you get to understand and say: 'Okay, we will manage this process in such a way that those outcomes are achieved'. It's a challenge for us, we understand that we haven't done enough in that space up until now but we think this is very much part of the reform agenda.

Mr SCENEY — Michael's referred to the memoranda of understanding and we will be continuing to expand in that area. That's quite important because it means we have established processes, accepted timelines, and a uniform approach from an agency that we deal with on a frequent basis so that's a very important initiative. Another example of how lead agency can work very effectively is seen in the reforms that are about to come into place in relation to referral processes for work plans, so we will have statutory referrals of work plans come 1 February. What that means is rather than an informal process of engagement between departments whilst a work plan for a miner quarry is developed followed by a formal process in the planning arena where agencies have another go at those proposals, it will only happen once. We will do the referral and that will replace the statutory referral process under the Planning and Environment Act. These are real improvements in the way the processes operate that we've been able to negotiate with other arms of government without having to create a vastly bigger infrastructure to support what most people think of as a one-stop-shop.

The CHAIR — Attached to that, I would anticipate, would be accountability for that lead agency from both aspects about establishing and maintaining the balance but also about performance from the industry.

Mr SCENEY — Yes, exactly.

Mr FOLEY — The other thing the Chair touched on from the South Australian lead agencies was the lead agency there is seen to be supported at every level, indeed lead by the highest level of government to drive that, to give to the world a view that it was a one-stop-shop but in reality, as you've described it, is a lead agency that was the key driver. What's your view?

Mr SCENEY — I understand what you're saying, I think that's absolutely the key to it. One of the benefits of the MoU approach with other agencies is that establishes an agreement on top of the Department so you establish a policy position which you can then drive down into the operation of that organisation. What's been missing sometimes in the past is a cultural understanding in other organisations, other parts of government, that they had a responsibility to deal with these things in accordance with the policy of the government of the day, to be quite frank.

If you go back far enough, there's ample evidence in the past of people within agencies operating to disparate policies, if you like, and this is what industry have said to you, so by establishing agreements at the top level, having some understanding of how we drive that out into the organisation and getting that change happening, we get our system working.

Dr HOLLITT — Perhaps I can just add one other thing, which is it was very interesting in discussions relating to lead agency when we first started having it as part of the discussion agenda for policy position that the other government departments were welcoming us having that role as well, because there was general agreement that somebody had to do it and we were the obvious one.

Mr NOONAN — Thanks, Chair. Obviously one of the terms in our reference is to look at the role of government and back on 7 November the Australian Institute of Geoscientists raised some concerns about some reorganisation within the Earth Resources Division and they have since published a piece in their December journal, which has been written by a former DPI Victorian employee, a retired one, if I understand correctly. This particular employee has raised a series of concerns about where the Earth Resources Division is going and raised concerns about breaches of contracts with some scientific collaborators; the fact that the database management delivery of systems has virtually ceased; staff with many years of experience are pouring out of the place; contracts with specific additional scientific staff not being continued; and the regional mapping team, which is one of GSV's great former strengths, is reduced to a simple geologist.

I suppose, this is an opportunity to give you a right of reply because that's all fairly damning, and Mr Vandenberg might be just simply a disgruntled former employee, but obviously it does raise some doubts and I wanted to give you an opportunity to address those doubts for the Committee's sake because they are quite serious.

Dr HOLLITT — Thank you. I'm actually not familiar with the contents of that article but I think I'm familiar with some of the — —

Mr FOLEY — It's hot off the press.

Dr HOLLITT — The thing that I can say is that there was change in the last 12 months, as a result of two things; firstly a recognition that we were really strong in geoscience in Victoria, as showing up in the data; and, secondly, that that wasn't having the impact that we needed in terms of exploration work that was happening out there on the ground. We did form the view that we needed to reorganise ourselves to better produce the leverage and the link between what we had, which was clearly a great asset, and what it was that we needed to leverage from that.

That reorganisation was the first one of any significance that has happened in that area for a long, long time so there was not a lot of resilience, I would say, to the organisational change. Having said that, we are also living in a time following a lot of change where at least we're seeing the beginnings of some recovery in exploration and also in other areas. The answer is yes, it appears to be, I think, from a disgruntled employee that has connections in the division. There's no question that everybody in the division is aligned with the agenda of the Government and the government before it, which was that geoscience is to be supported, there's no question in relation to that. The only thing that we're trying to do right now, and the only thing our organisation is about, is trying to make sure that that leverage is quite strong and delivering the outcomes the Victorian people have a right to expect from the investment in geoscience.

Mr NOONAN — You anticipated some of the pain that obviously comes from a reorganisation?

Dr HOLLITT — It's not my first and the answer is yes. In an organisation that hasn't had a lot of change, often you will get a situation where there's not robustness. In that reorganisation, I should say, our starting objective was to make sure that everybody was retained and to make sure that everybody had useful work to do. The reorganisation that was put in place was fully authorised within the Department, the reasons for it were well understood, and indeed the organisation that was put in place earlier this year is still there.

Mr SCENEY — Can I just say in relation to that, I think you've quite rightly said change processes can be very difficult for staff. We've spoken a number of times today about good reasons for some change in this area of government, so I don't think we need to really justify that. The fact that it has been as difficult as it has is a matter of great concern to the Department and we have been working actively on that problem for some weeks in fact, and I think what you're seeking is a description of circumstances that is somewhat dated now. I think you will find a different view emerging from the staff group now, albeit one that's still tempered by having to go through a difficult time.

The CHAIR — I actually saw the article in slightly different terms. To me it looks like we probably had the biggest, shiniest car that just wasn't going anywhere. To some extent you must have the information and we got the information but the outcome wasn't exactly the way the Department or the Government wanted it to end up with. It's great to have the information but you really need to also focus on getting that to work in the marketplace and the change of emphasis as well. I think you will find, certainly my perspective is, that article has been the ramifications of that change.

Mr NOONAN — Chair, this question can be taken on notice but there is a survey referred to the piece which goes to staff engagement and feedback, which has not been publicised, which departs from previous years based on this piece. I'm hoping that you might take on notice a request from the Committee for us as a Committee to have a copy of that survey?

Mr SCENEY — Can I talk to that because I believe this survey that's been referred to was a confidential survey of staff attitudes undertaken by an organisation psychologist. It included ultimately a lot of personal comments and observations from some people who were distressed at the time so of its nature it is quite confidential. I'd ask the question whether it's appropriate or relevant to your considerations.

Mr NOONAN — It goes to the role of government and if there are issues that the Committee — —

Mr SCENEY — Can I answer that — —

The CHAIR — It's probably an issue that we can deal with at the meeting.

Mr NOONAN — I'm happy for the question to be taken on notice.

Mr SCENEY — Can I simply finish, though, that the outcomes of the survey — not the deeply personal information but the outcomes of the survey — have been discussed with the staff groups involved; they've been through that, so there have been no secrets at the end of the day. I think they're the people that have an appropriate right to access to that information; I would be loath to see it go — —

The CHAIR — We can certainly consider that in the meeting.

Mr NOONAN — Sorry, there seems to be two parts. There seems to be the responses and then the outcome. It might be that the outcome would serve some purpose for our committee in terms of its deliberation.

Mr SCENEY — I think the outcome deals quite deeply with the impact of actions and the role of people, so the personal information is inseparable in that sense, and I think the people who were engaged in that and gave of themselves in those interviews would in some cases have a valid right to think that that was confidential information that was going to be held very tight.

The CHAIR — But something we can raise at the meeting and discuss anyway, and we have one later this afternoon. We've now run to well after the time period that we had anticipated so thank you very much for your second visit, Mike, and certainly for all the information you've given. The information provided will become a matter of public record as evidence. You will be sent a copy of the proceedings today, please feel free to change

any grammatical errors and return it to us, but nothing to the substance of the information that's been provided. Thank you very much.

Dr HOLLITT — Thank you.

Mr SCENEY — Thank you.

Dr SUSTER — Thank you.

Witnesses withdrew.