

[Acting Chairman: Mr. Musgreave] [2:02 p.m.]

MR. ACTING CHAIRMAN: Lady and gentlemen, we'll call the meeting to order. We welcome the minister of energy, the Hon. John Zaozirny, who perhaps would like to introduce the people he brought with him and start the meeting.

MR. ZAOZIRNY: Thank you very much, Mr. Chairman. It's my pleasure to introduce to the committee this year, as I did last year, on my left, Fred McDougall, the deputy minister responsible for our renewable resources sector and, on my right, Mr. Reg Humphreys, the chairman of the Alberta Oil Sands Technology and Research Authority.

By way of opening remarks, Mr. Chairman, I would simply say that I have none.

MR. ACTING CHAIRMAN: Are you ready for questions, Mr. Zaozirny? Mr. Martin, you've got the floor.

MR. MARTIN: I'd like to go into one area. I notice we have a person here from AOSTRA. I'll follow up on it with a couple of questions, if I may, Mr. Chairman.

First of all, I am told -- and we get told things once in a while, especially when I go down to Calgary -- that there is an internal 10-year audit going on with AOSTRA, basically to take a look at how the grants have been going, if we're getting the best bang for the buck. First of all, I'll find out if this is the case or not. Is this true?

MR. ZAOZIRNY: Yes, that's correct.

MR. MARTIN: Flowing from that, my second question: so that we as a committee can do our job, will this document be made public if or when it's finished or these sorts of things?

MR. ZAOZIRNY: I don't know that any final decision has been taken on that matter. It would depend only upon the nature of the document in terms of any confidentiality of it. My understanding is that it's a very comprehensive approach, and there may well be some commercial dimensions to it that affect the companies who are participating in various projects with AOSTRA. That's a consideration

that would have to be dealt with. Perhaps I could invite Mr. Humphreys to comment on it in that fashion.

MR. HUMPHREYS: Mr. Chairman, yes, the document has not been completed as yet, and there is quite a bit of confidential information that the auditors were given in order to make the assessment of the various projects. As Mr. Zaozirny has indicated, there is a fair amount of confidentiality involved from two aspects. First of all, we had guaranteed that the people doing the audit could speak quite freely and openly and give us their unbiased opinions. We had indicated to them that we would not make public their comments. Indeed, there has also been a lot of information that has come from the companies which is confidential, and we have made an obligation not to make that public. But we will have a document that will be made available to the minister and others, and it will not contain any of the confidential information.

MR. ZAOZIRNY: If I could respond further -- and as I say, no final decision has been taken -- I would like to believe that some documentation can be provided that will provide an overall assessment of performance and matters of that nature that doesn't breach the undertakings of confidentiality in terms of commercial matters. I'd like to make that kind of a response, that it would be my hope and expectation that a form of the document that doesn't breach the undertakings of commercial confidentiality can be made available.

MR. MARTIN: Just to follow up from Mr. Humphreys' answer, I take it that the study is not complete. If I can get two questions into one here, I'll try. I was wondering when we might look forward to the completion. Flowing into the minister's answer, without going into individual companies -- I can understand the confidentiality -- it seems to us that this would be rather a valuable document for a group like this to take a look at what is happening with AOSTRA in terms of internal audit. I expect that's a very complete document, and it would be a very valuable thing to have. I just say to the minister: I hope that when that decision is made, they will look at some way of making at least the general thrust of what's happening

there public, because I think this is extremely important information.

MR. ZAOZIRNY: If I could, Mr. Chairman, I think that's a fair assessment. I share that view and approach, and that would be the direction we will take with respect to it.

MR. MARTIN: When was it going to be finished?

MR. HUMPHREYS: The audit is basically completed. We're still awaiting the final report from the audit committee. It will be presented to the board perhaps at the second meeting in September.

MR. ACTING CHAIRMAN: That was all, Mr. Martin? Next is Mrs. Cripps.

MRS. CRIPPS: Mr. Chairman, my question also regards AOSTRA and is in regard to the flexibility of the program. I know it's used extensively in the tar sands but that there's not much development or experimentation in the conventional field. There has to be a lot more flexibility in the program to allow for the return on investment in the various formations. The Belly River formation in Drayton Valley is extremely tight and is not economical to produce unless there is some flexibility in the program. Have you taken a look at discussing with the oil companies the kinds of flexibilities that are needed in order to make that program usable for them?

MR. HUMPHREYS: Yes, we have. We have worked in about six or eight varying types of technology for conventional oil. We think we have succeeded with four of these. We're looking in such areas as the Pembina field in Drayton Valley and the Turner Valley field and some of the difficulties that we get into there. For example, when the wells were drilled in the Turner Valley field, there was not a great deal of information taken with respect to the geological structures, and we know that it's a very complex geological structure. We have been talking to some of the oil companies to see if they would be interested in moving ahead with one of the technologies we've developed which we feel will be most successful in that area, and up to this point in time we have not had a great deal of response from the oil

companies.

Another tack we have taken is that we have initiated discussions with the Energy Resources Conservation Board to outline to them the types of technology we have developed to see if they could recommend various fields that might be amenable to this particular type of technology. We will then go and visit and see what interest the companies have with respect to putting in a pilot to test the technology. But it's very difficult. The companies have their own priorities, and to go in and make some suggestions to them quite frequently does not find too much favour.

MRS. CRIPPS: From discussing the problem with some of the oil companies in Drayton Valley, I think they would be only too happy to try to apply the technology. It's the inflexibility of the guidelines. It seems to me that the guidelines should be flexible enough so that we could make them suitable to the different rock formations and to a specific area. What will work in Judy Creek will not work in the Pembina field, for instance. Therefore, I think we need to look at specific guidelines which meet the needs of each area and the type of formation we're looking at.

MR. HUMPHREYS: The technologies that have been developed will work in varying degrees in various fields. I think what's required at the present time is to get an operator who is prepared to test. We have discussed with Texaco in the Pembina field, for example, and these discussions and negotiations take quite a period of time. I know that some of these discussions were started before I came back onto the board last year. As I indicated, the only way one can prove whether a certain technology will work or not is to go in and put in a pilot plant, and that's what we're endeavouring to do.

MRS. CRIPPS: Well, I hope you'll keep working in the Pembina area.

MR. GOGO: Mr. Chairman, to the minister. I think AOSTRA has been a remarkable success story for the world, not just here at home, undoubtedly because of people like Mr. Kidd and Dr. Hepler, who have been associated with it for many years. Minister, I recall that at one time in the estimates you indicated that you

had set a priority in AOSTRA in terms of fellowships for Albertans as opposed to people outside Canada. Is that policy still in place, whereby you offer a primary opportunity for Alberta students who want to pursue research into oil sands, either on a doctoral or some other basis?

MR. ZAOZIRNY: Mr. Chairman, the hon. member is quite correct in his understanding. That has been the policy of the government and continues to be the policy. It's an Alberta emphasis and it's an in-Alberta circumstance. Mr. Humphreys, did you want to elaborate on that at all?

MR. HUMPHREYS: We have active programs with the University of Alberta, the University of Calgary, and in Lethbridge, and these programs take varying forms, including fellowships, professorships, and scholarships. Up to this point in time we have confined this type of activity to the Alberta scene.

MR. GOGO: Chairman, I think it's ever so important that young Albertans know that those at home really are concerned about their futures and the opportunities. I am one who, without sounding rednecked about it, would endorse that policy's being continued.

I have question regarding the grazing reserves development. I am a little puzzled about this in that we've just experienced, as I'm sure the Member for Cypress would remind us, the greatest drought in southern Alberta in probably 60 or 70 years. One would think that if ever we required grazing reserves, it would be this past year. Yet I look at the \$6.5 million appropriated, and you left about \$3 million on the table for the last fiscal year. Could you explain why that money was not spent? Was it a matter of poor budgeting? Or did some things that should have occurred not occur? I'm referring now to page 34 of the annual report.

MR. ZAOZIRNY: Mr. Chairman, I'm sure that my colleague the Associate Minister for Public Lands and Wildlife would be able to respond to that question, which falls within his portfolio responsibilities. I regret that I can't speak to the matter, and perhaps in fairness we should allow the minister to respond.

MR. GOGO: I thought Fred McDougall may

have cut all the timber off it and left it. Thanks, Mr. Chairman.

MRS. CRIPPS: I want to ask some questions about the reforestation projects. Where are we with regard to reforestation of the total timber cut in the province, including the burn area? Are we keeping up with it, or are we falling behind?

MR. ZAOZIRNY: I suppose the broad response to the question is that by virtue of our arrangements with the commercial operators, there is an obligation to reforest harvested areas, either at their initiative or at their cost, with the government, the Forest Service, undertaking the work but at their expense. I think it's fair to say that in the overall we are seeing that reforestation occur.

As a matter of fact, in the last several months there have been a number of stories about reforestation in Canada generally and some concerns expressed about reforestation in certain areas. I have never yet seen a reference to Alberta as being one of those areas where there is concern about the measure of reforestation that is occurring. That's a backhanded way of saying that in our judgment Alberta probably has the finest record in the country in terms of reforestation of harvested areas.

The Maintaining Our Forests program is specifically aimed at endeavouring to reforest in those areas that have been affected not by harvesting but by other circumstances such as fires and other natural occurrences. In that area we've made some considerable progress, although I don't know that we could claim to have achieved full reforestation. I don't think that is the case. But certainly in terms of lumber harvesting, our reforestation record is one we as Albertans can all feel very good about, and reforestation is occurring in the aggregate in those areas.

Perhaps I could invite Mr. McDougall to comment more specifically on that subject.

MR. McDOUGALL: Yes. If you except last winter's cut, over 95 percent of the areas cut over since 1966 have been treated. In other words, we won't have gotten to all of last winter's cut yet. Most of the areas are treated within two years, but if you take the aggregate area which has been cut over since 1966,

excepting last winter's cut, 95 percent of that area has been treated. The success ratio on treated areas is over 90 percent after 10 years. In other words, it takes a period of time to get the trees established, and in some cases a retreatment is required. In-planting is often required to bring the tree numbers up to the required standard. But after 10 years the success ratio is higher than 90 percent.

So there's a very minimal amount that's not being treated. It's less than 5 percent. Those tend to be very scattered and remote, in many cases lands where perhaps the water table has risen. There's virtually always some physical reason for that very small percentage that doesn't get treated.

MRS. CRIPPS: I appreciate what the minister said about the total lack of comment. I remember seeing a CBC documentary on Canadian forestation, and they virtually eliminated Alberta. I think we should be doing something to try to tell people what a good job we are doing in forestry.

You go from one extreme to the other, I guess. If you don't have enough trees, you in-plant. How many acres do we have in the province of Alberta that are too thick to ever be productive timber stands? Is there anything we can do through this program or another one to correct that problem?

MR. McDOUGALL: Under the MOF program we are doing some thinning. There are about 2,000 hectares which have been thinned under the Maintaining Our Forests program under the heritage fund. It hasn't been a high priority. There certainly are a lot of forest stands in the province which would benefit from thinning. We've tended particularly to emphasize overdense pine stands because that's where overdensity is most apparent, but it's becoming evident that we actually get a much better growth response when we thin in spruce. Spruce will respond very, very dramatically to thinning. In terms of return on dollar invested, the thinning of spruce stands is probably a better investment than thinning in overdense pine. But our emphasis has been on reforestation rather than thinning. We've done enough thinning so that we're getting our cost down and developing our techniques, but it really has not been a fully operational program in the sense of doing a lot of it every year.

I should point out, too, to supplement my earlier answer that in addition to the 95 percent treatment on cutovers under the Maintaining Our Forests program, we picked up an additional 48,000 hectares, which is roughly 100,000 acres — a little more than that, actually — of supplemental reforestation over and beyond the area cut. That's primarily in old burns. When you factor that in, you could say that our reforestation is in excess of 100 percent of our cut figure.

MRS. CRIPPS: You said that you hadn't placed too much emphasis on thinning. I want to know how many acres — don't tell me in hectares, please — you think there are in the province that would benefit from that and if you hope to put some emphasis on that in the future.

MR. McDOUGALL: Thinning can make an awful lot of sense and show a very high return in situations where you have an imbalanced age structure in the forest, and our phase 3 forest inventory is showing this. You have an area of overmature, decadent timber, then you have a deficient series of age classes, and then an abundant age class at a younger age. Traditionally, in forestry management what we've tended to do is even the harvest out by reducing the rate of harvest in the old wood and trying, in effect, to ration the old wood out so it will be there to fill that gap, so you're not facing a situation 10 or 15 or 20 years down the road where you literally run out of wood.

Another way of filling that gap in the middle of an age class structure is to thin in the younger material and accelerate its growth so it's now reaching merchantable size earlier. This enables you to be less severe in your reduction of cut in the old age class. So instead of having to wait 20 or 30 years for a return on your investment, you can actually take your return on the investment immediately by accelerating your rate of cut in the overmature timber. In that particular situation and under the right circumstances, thinning can show a very high return on cost of investment.

It's in those situations whereby thinning we can maintain a higher level of harvest that I think the department might be in a situation to come forward to the government and request funding. We'll have a clearer picture of how many of those situations we have and the extent of them in a year or two when our phase 3

forest inventory analysis has been completed. But it's an area, in my view, that should perhaps receive more attention than it has, and I think that will logically happen once our forest inventory results have been fully analyzed.

MR. MARTIN: Just to come back to AOSTRA, if I may, and the internal audit we've been talking about. I wonder what type of audit, because there are value-added and all different types of audits now. Specifically, the only major criticism of AOSTRA I've ever heard — I think we know that some of the technology that's come out has been very good — has been the patent rights, the idea that if one company uses public funds along with their own funds that they can use that anywhere in the world. It won't necessarily benefit Alberta, and we can't use a licence in that area. I guess my question is: does this internal audit take a look — I know you're not going to give me the answer to this — at the way we approach patent rights in terms of the future and how well that's worked in the 10 years?

MR. HUMPHREYS: The audit started out to be a purely technical audit and has gained momentum, if you will, and become a management audit. Indeed, it has looked at technology sales, which includes patent rights. So there will be something coming forward from that.

I wasn't quite sure what the criticism was of AOSTRA's patent policy.

MR. MARTIN: For example, if they go into a venture with public and private money, they can use that anywhere in the world and we would not necessarily receive money from that, even though some of Alberta's public money had gone in. As I say, that's one of the criticisms.

Let me just flow. I appreciate the answer that they're taking a look at that. This would not necessarily breach the confidentiality of any specific company; it's more of a policy they're looking into. My question to the minister is: is this the type of information, that I think would be crucial, that we perhaps could look forward to being made public?

MR. ZAOZIRNY: Again, my approach would be, to the extent that there isn't a breaching of undertakings of confidentiality vis-a-vis commercial dimensions, to provide information

that we can table as public information. I think that's about as much as I could say on the subject right now.

I should add that as minister I haven't received any communications critical of the current patent policy, which, as members will recall, provides that in Alberta we have the exclusive rights and that at the same time the company that is engaged in the work is able to use it for its own purposes. Once one gets into the international arena, there is a sharing, if you will, of any benefits that flow from the patent or licensing arrangements. Just for the record, I should say that as minister I have not received communications critical of that approach. But it seems to me that we may well be able to provide information on that subject that doesn't breach any confidentiality. I hope that would be the case.

MR. MARTIN: Just to follow up, Mr. Chairman. Looking ahead into the next four or five years with AOSTRA, is the thrust basically the tar sands, heavy oil, a combination, any new areas that we're not even aware of, enhanced recovery, or coal gasification? Are all these projects we're taking a look at pretty well by the mandate having to deal only with tar sands?

MR. ZAOZIRNY: Mr. Chairman, I think it's clear that the approach of AOSTRA and the mandate is a broader one than a focus exclusively on the oil sands. I think that was clear in the response Mr. Humphreys gave to questions from the Member for Drayton Valley.

I should say that in my own view as minister — and Mr. Humphreys should smile, because he and I have had discussions on this point — I feel pretty strongly that while it's appropriate that there be some breadth to the work AOSTRA is engaged in in areas of our province where beneficial work can be done, we shouldn't dilute our efforts to the point that we're spread too thin and not zeroing in with the principle focus on oil sands. Having said that, it's very easy perhaps to be too simplistic on this and talk in terms of unlocking the key to low-cost oil sands development. What has become clear to me in my term as minister is that it doesn't work that way. It's an exceedingly complex area where you see developments and improvements that are incremental in nature by and large rather than this "Eureka, we've found it" type of approach. I feel very strongly that while there

is room for a breadth of activity by AOSTRA, that oil sands resource is so very crucial to the province and has such great potential for job creation and economic benefit that we must be constantly vigilant that we don't dilute our efforts to such a great extent that we lose a focus on the oil sands.

Having said all that, perhaps I should invite Mr. Humphreys to elaborate a little further on the AOSTRA view.

MR. HUMPHREYS: When AOSTRA was set up, one of the initial targets was to develop a new technology for each of the four major areas. Over the past period we think we have succeeded in coming up with good, viable technologies for Peace River and for the Cold Lake deposits. Athabasca-Wabasca is fairly similar, and we have several projects going on at the present time in that area. We're also turning our attention to the carbonates deposit, which of course is as large as or larger than the tar sands deposits. In the enhanced oil recovery and conventional oil area, I think we have seven projects proceeding or about to proceed at the present time. So even though the tar sands area does take up most of our effort, we are doing a considerable amount of work in the enhanced oil recovery and carbonates area.

With respect to conversion of coal, we are working fairly closely with the new development that was set up, because the liquefaction of coal and the upgrading of bitumen are fairly closely allied. We're assisting in those other areas also to make sure we're getting the best value for our money.

MR. COOK: Mr. Chairman, I was going to ask a couple of questions about patent rights as well. I wonder if the minister could describe for the committee what, in fact, the patent policy of AOSTRA is and how Albertans might benefit from a development — not just the enhancement of the technology and the ability of projects to go ahead in Alberta but also how we might benefit if there is a technological process developed that might be used in Venezuela or some other jurisdiction.

MR. ZAOZIRNY: Mr. Chairman, I think I responded in part to the hon. member's question in my earlier response to the hon. Leader of the Opposition when I spoke of the current arrangements whereby in Alberta we have the

exclusive right, if you will, to the patent arrangements subject only to the company which has participated with AOSTRA in being able to use that technology as well. Once we get beyond those circumstances and in the international arena in particular, there is an opportunity for the individual company to market the patent rights, but there is a sharing of any revenues that may flow from that. So that is the overall policy and approach.

As far as benefits are concerned, there have of course been some dollars already received and garnered by virtue of the disposition of the patent and licence rights. So there is that immediate benefit. In addition to that, I think it's fair to say that if, in fact, a particular technology which was initiated here in Alberta is applied elsewhere in the world — Venezuela being a good example, a good likely locale — because it may for some reason have a particular application or there's a reason why it's initiated in Venezuela after having been developed here, I think one has to recognize that that development in Venezuela may subsequently give rise to new knowledge and information that again can have application subsequently in Alberta. In other words, one can't take the view of being too narrow in our focus, because we have much to be learned and gained from what happens in heavy oil development elsewhere in the world. So I think there are two benefits that would flow: first of all, the immediate monetary payments that would flow from a disposition of patent and/or licensing rights; as well, as world knowledge grows in this area, that world knowledge is ultimately available for use here in Alberta.

MR. COOK: Mr. Chairman, a supplementary. We had a report from the medical research foundation, who were here with us a bit earlier. They do have a specific patent policy; they do expect a certain return based on their investment. Is there a similar statement that is presented to applicants with AOSTRA? If so, is there a percentage or sharing of the patent rights that we expect?

MR. ZAOZIRNY: There is such a policy, and perhaps Mr. Humphreys could provide the precise details.

MR. HUMPHREYS: Mr. Chairman, one of the first difficulties we ran into with respect to

patents and patent rights was the fact that companies usually brought in the ideas that they had either patented or were about to patent. Part of the policy with respect to development of the tar sands was that AOSTRA would own new technologies that came about through any pilot work done. If a company came into the project with us, that technology was indeed owned by AOSTRA. If the project were funded on a fifty-fifty basis, as most of our projects are, we would indeed get 50 percent of the royalty return from that technology. That is basically the way it works.

MR. COOK: Mr. Chairman, I wonder if I could now shift my questions to projections for the future. The report states that as of April 1 this year AOSTRA has received and spent about a little over \$300 million. It seems that the investments are increasing in dollar amounts. Last year we spent almost \$50 million. What are the projections for the future? What are the major challenges for AOSTRA? I recognize that research is not something you can just turn on and off like a faucet. We've been in operation now for 10 years. Is it reasonable to expect a projection of another 10 years?

MR. HUMPHREYS: We looked at a projection and felt it just a little unwise to go beyond a five-year period. We are expecting that we will spend at about the same level for the next five years. As I indicated earlier, we think that we have met part of the mandate by coming up with technologies in two of the areas, and we think that we're going to come up with breakthroughs in a couple of the other areas within the next five years. Beyond that it's very difficult to project. I don't know if that answers your question or not.

MR. COOK: It helps to know that you're projecting to spend at that level. A further question would be: basically, is it reasonable to expect that a future tar sands plant that might be developed would benefit from new technologies in such a way that the cost for the production of a barrel of oil would be significantly lower perhaps than with the older technologies used in the two existing plants?

MR. HUMPHREYS: Yes, one of the objectives is to find technologies that will bring the cost of, say, synthetic crude oil to a lower level.

MR. COOK: I guess what I asked is: are we now in a position to significantly change the technology that is in operation in the two plants today were another plant to be approved this year or next?

MR. ZAOZIRNY: Perhaps I could endeavour to respond to that question. Looking back at testimony before the committee last year, when Mr. Carrigy was with us and a question of a similar nature arose, he suggested in response that within the next few years there may well be a choice, for example, of a retorting process, a dry process, or the hot water process, which would certainly involve additional choices, at least on a technical basis, that weren't available years ago. But I think one has to be careful about making the assumption from the fact that there has been some development of a particular technology that by virtue of the existence of it, an investor would necessarily grab it and run with it on a commercial basis. There are inevitably measurements of risk factors and the extent of the gain you're likely to achieve by using this newer although not as tested technology as compared to going with the more tried and true.

So the response I would provide is that that technology development is occurring, but as to whether or not a prospective investor would choose to go with the newer, less tested technology versus the traditional, tried-and-true technology is a business decision that would have to be made by the investor at that point in time.

MR. ZIP: Thank you, Mr. Chairman. I am troubled quite a bit at the present time with the current world oil situation and the direction we're going in this specific sense as to AOSTRA. Just how close to the line are we as far as costs are concerned? If the price of oil drops to, say, \$20 a barrel, are we going to be so far out of reach as far as being competitive in world oil markets as to really make a lot of this research irrelevant?

I notice that the Husky upgrader is in real economic jeopardy at the present time because of the uncertainty of world oil markets, the weakness of oil prices, and at the same time what's currently taking place across the world as far as achievements that have been set in motion toward oil conservation. All across the non-OPEC world the supply of oil has been

greatly enhanced, and the market share of the OPEC countries has dropped very significantly. It's very obvious we have huge surpluses at the present time that were not envisioned five or six years ago. Just what position are we in as far as this whole price and cost factor and AOSTRA are concerned?

MR. ZAOZIRNY: Mr. Chairman, that's a crucial question. The answer to it is, not surprisingly, rather complex. On the one hand, one could simply make the obvious observation that a world price moving in a downward direction puts pressure on more-costly-to-produce oil. There obviously can be no argument with that simple statement, but really trying to assess the current situation vis-a-vis our own circumstances is far more complex.

The first thing to be borne in mind, of course, is that when one is looking at oil sands development, if one were to be initiated this afternoon, you're talking about a five- to six-year time frame before you arrive at the point of production. That's the nature of an integrated oil sands mining project. So one has to say not: "Gee, what's happening with the world oil price today? What will it be next year?" Or "What will it be in 1988?" One has to say, "Where do we think it will be in 1991?" That's very difficult.

Human nature being as it is, there is some tendency when we see the graph moving in a particular direction today to extend the graph as a forecast. But we know that in respect of oil that simply can't be, because while there may be some shorter term surpluses in the world, given the existing reserves we do know that at a point in time on a worldwide basis we are again going to find ourselves with a much more tightened supply/demand circumstance, and that impacts on price. That's the first thing to be borne in mind: not one's sense of world oil price today, but where it will be in the future. That's the kind of thinking that goes into considerations of getting on with new projects today.

Just by way of example, take a look at the approach by Esso to their Cold Lake development. Esso, I guess via the parent company Exxon, is the world's number one corporation. If you check the Fortune 500, I think they are number one this year, as they have been for some. They're number one because they're long-range thinkers. They're

moving ahead very aggressively at Cold Lake. They see it as being viable not only today but very much so in the future.

I think one should not get discouraged by current uncertainties in the world oil market. I suggest that there is some considerable likelihood that those uncertainties will continue and that the price pressures will continue for some period of time. If you read and try to condense the views of various analysts, they suggest that the next year or so is likely to be marked by the kinds of uncertainties and downward price pressures that are being demonstrated right now.

Commenting beyond that, in terms of our current production, I think we're pretty well positioned and can handle some modest slippage in the world oil price, certainly on the conventional side, and I think that applies as well to these in situ projects and to our current oil sands projects. If there is a dramatic decline, obviously that has an impact that's not of the positive kind. The view I've garnered from our industry in the aggregate is that while no one is looking forward to or hoping for a lower price for their product, we can handle some slippage.

Beyond that, in terms of new projects coming on stream — an integrated oil sands mining project, for example — one has to look into the 1990s as far as price expectations are concerned. I think the prevalent view, notwithstanding the 1985 circumstance, is that we are going to see that pricing circumstance improve as the supply and demand circumstances alter.

MR. ZIP: Thank you, Mr. Minister. I'd like to ask a further question on just what our markets are doing at the present time. I notice that we have a substantial amount of shut-in production at the present time and there's some slowness in getting back into the U.S. market that we traditionally held before all that involvement of the federal government in traditional marketing patterns for Canadian oil took place. Are we getting our traditional markets in the United States for our oil and gas from Alberta back, in view of the current weak international oil markets? This has strong implications for not just the Alberta heritage trust fund's income but also the whole health of the Alberta economy.

MR. ZAOZIRNY: Certainly, the continuing view of the industry is that the advent of deregulation was inevitably going to give rise to this sorting out process that we're in the midst of. Their view is that those market circumstances will settle out over the next number of months. At the same time, there is no question that the export market is important to us — the U.S. export market in particular, just by virtue of the economics of our geography and the existence of pipelining capacity at the present time. In that regard, the Chicago area is where the bulk of our export oil is moving to.

Over the next number of months I think we're going to see a sorting out of the market circumstances with the industry again developing an expertise in marketing. Frankly, since 1976, when we were denied access to export markets, that expertise that is required in the business of marketing oil has fallen away. Many of the people who were involved in that part of the business in the '70s and prior to that have moved on, so there's a sort of rediscovering or relearning process going on, a re-establishment of market connections and business arrangements.

At the same time, of course, we're sorting through some pipeline capacity circumstances. It's a reality. We are in fact moving on to produce more oil than it was anticipated by everyone that we would be able to produce. While we want to see that circumstance righted very quickly, if one takes the broader view, we have to feel pretty good about the fact that our conventional production, for example, has not fallen off as dramatically as some of the analysts were predicting up until recent times. We are seeing increased activity in the in situ areas. We are seeing, for example, the Syncrude capacity expansion project that's going to add another 20,000 barrels a day to their productive capabilities.

We have to sort through those various matters, and that is occurring at the present time. But we feel good in the overall and the longer term about our export market opportunities.

MR. ZIP: One more question. I notice that there's never much talk about coal liquefaction projects in Alberta. Looking at what South Africa has achieved with coal liquefaction, is there much thought or attention being given to

this area?

MR. ZAOZIRNY: Again, it's a market circumstance. Mr. Humphreys mentioned earlier the office of coal research and technology, which is looking at the ways in which we can improve the quality and marketability of our coal. There have been a few proposals raised in the public arena with respect to coal liquefaction. I'm not on the verge of any announcement in that regard, but I don't think one should take the view that it's simply not in the cards at all. There is work being done on it at the research level, and there have been some assessments of commercial viability as well.

MR. ACTING CHAIRMAN: Mrs. Cripps, I believe you had another question.

MRS. CRIPPS: Yes. Thank you, Mr. Chairman. When we had the Alberta Heritage Foundation for Medical Research, we heard about some exciting discoveries and developments in that research foundation. Has there been any developmental progress in your research at the Pine Ridge nursery?

MR. McDOUGALL: Exciting, I'm not sure. I think we have a good program. We're not spending anything like the kind of money the medical research program is spending, but within the limited scope of that, I think there are. As you know, we're doing a lot of testing of imported tree species. Some of those look very interesting and are showing much faster growth rates than native species. One that I know the committee itself saw on its trip there last year was the Siberian larch. It shows a lot of promise for very fast growth in Alberta, and there are others.

The genetic program, whereby we're into a tree-breeding program and a program to improve growth rates and quality in native stock, is showing excellent results and moving along very well. There is immediate potential there for a 20 percent increase in productivity from forest stands as we reforest with improved stock rather than wild stock. Twenty percent on that basis is a very significant advancement, so within the scope of the program we're proud and excited about the results we have achieved to date.

MRS. CRIPPS: Thank you.

MR. ACTING CHAIRMAN: Are there any other questions from committee members? Thank you, Mr. Minister.

Gentlemen and lady, if there are no further questions, would someone move that we adjourn?

MR. R. MOORE: I move we adjourn.

MR. ACTING CHAIRMAN: All agreed?

HON. MEMBERS: Agreed.

MR. ACTING CHAIRMAN: Thank you very much.

[The committee adjourned at 3 p.m.]