2:02 p.m. Wednesday, October 23, 1991

[Chairman: Mr. Ady]

MR. CHAIRMAN: I'd like to call the meeting to order. I'd like to welcome the Hon. Rick Orman, the Minister of Energy, who has agreed to appear before the committee. I appreciate him taking time to do that, and we welcome his department people who are accompanying him.

Just prior to beginning the discussion, perhaps I could just give an overview of those areas this minister has responsibility for that would be appropriate for discussion. He has responsibility for the Alberta Oil Sands Technology and Research Authority, also the renewable energy research. He could entertain questions on Syncrude and OSLO. He does not have direct responsibility for the Alberta Energy Company, under the Alberta investment division, or Nova, so those questions would more appropriately have been directed to the Alberta Treasurer.

MR. PAYNE: Mr. Chairman, excuse me; I think you forgot to mention the biprovincial upgrader. I do believe the minister would possibly have some information to share there as well.

MR. CHAIRMAN: Yes, that's correct. Thank you, Member for Calgary-Fish Creek.

Mr. Minister, again we welcome you here and would certainly appreciate some brief overview of the activities of your department as they pertain to the heritage fund during the past year. After that we'll move to the question portion of our meeting today, and the committee would ask that your remarks not be excessively long.

Thank you. If you'd proceed.

MR. ORMAN: Thank you, Mr. Chairman. Let me begin by thanking you for this opportunity again to review the Department of Energy and related agencies that report to my ministry for discussing energy-related expenditures and investments from the heritage fund as they relate particularly to 1990-91.

I have with me and would like to introduce to the committee, starting on my left, Norm MacMurchy, who is assistant deputy minister, sustainable energy development. Mr. MacMurchy heads a section of my department that was recently reorganized to deal with sustainable energy development; that is, the importance of the environment and energy and the interrelationship of the two, and he has indirect responsibility with regard to the renewable energy initiatives I'll be speaking about in a moment. On my immediate left is Scott Woronuik, my executive assistant, and on my right is Bill Yurko, chairman of the Alberta Oil Sands Technology and Research Authority. Although there are no direct expenditures related to AOSTRA in the 1990-91 budget, because we have a significant investment from the heritage fund in AOSTRA, I thought it would be important that Mr. Yurko accompany me so he may speak to some issues relating in general to AOSTRA. I've asked him to spend a moment bringing the committee up to date on probably the most important aspect from the committee's point of view, and that is his direction with regard to commercialization.

Mr. Chairman, the objective of our department with regard to expenditures from the heritage fund is basically along the lines of an objective to minimize expenditures from the heritage fund and maximize the return. The total energy-related expenditures of trust fund dollars was $422,000 for 1990-91, all of which went to the southwest Alberta renewable energy initiative.

Since I last spoke to you about the southwest Alberta renewable energy initiative, there has been a significant gain in momentum and significant projects have been unveiled. These projects range from a nine-megawatt wind farm to the development and demonstration of solar- and wind-powered water pumpers to provide water for wildlife habitat. Now, the initiative does not focus on one aspect of renewable energy, such as only wind or solar, but in fact is a comprehensive program that is the only one of its kind in Canada.

Mr. Chairman, there are two noteworthy points I would like to make about our renewable energy initiatives in general. The first is that they have stimulated great interest and generated many millions of dollars in private capital investment in the southwest region of the province. The largest of the projects is a 36-turbine wind farm; it represents $11.4 million of investment of private capital over three years. These developers did not receive, nor did they request, any government funding for their project. They were attracted to the potential of the initiative and the opportunity to get in on the ground floor of the most exciting initiative of its kind in the country.

Other projects announced in 1990-91 similarly represent private investment in renewable energy, and this is a result of the modest investment the heritage fund has made in renewable energy initiatives in this province. As you will recall, we have committed $3 million over three years to renewable energy initiatives. The total private capital this $3 million has generated is $17.8 million. I take you back to my original comment in our mission statement that we pursue minimum expenditures on behalf of the heritage fund to attract maximum capital investment by the private sector. I believe these two numbers demonstrate the leverage the heritage fund dollars bring to the province of Alberta in terms of these initiatives. I should also say, Mr. Chairman, that these are not simply tests or pilot projects. They are projects that will be fully functional and fully energy-generating facilities that use the best and most modern technology available and will generate and are generating power into the Alberta electrical grid.

In addition, we have a Renewable Energy Information Centre in Pincher Creek that opened in October 1990. This centre has been well utilized; the community has become very much involved in its activities. We've had hundreds of inquiries related to renewable energy technology and its applications, and I'm very pleased to see that.

There is a far greater interest in renewable energy initiatives than I had anticipated when this project first began, certainly far greater than I had anticipated with a modest investment of $3 million over three years. In general, the initiative and the projects under it are the fruits of many years of research from within both the department and the private sector, proving that renewable energy is an economically viable proposition and, as well, an environmentally important one. Our measured use of the trust fund is very effective. It has kick-started a vital and progressive program in southwestern Alberta, and it has also met the dual role of targeting economic development for a region of the province that was in significant need of economic development.

In terms of the trust fund's investments in energy projects, they continue to play an important role, especially in oil sands development. As of March 31, 1991, our investment in Syncrude has totaled $514 million. Our Alberta Energy Company investment was $167 million, and we have a total of $165 million in Nova Corporation in convertible debentures.

Mr. Chairman, I'd like to make one point, and I know it's of interest to the committee, and that is with regard to Petro-Canada's sale of its interest in Syncrude. There have been some questions raised publicly about the relationship of this divestiture of an asset as it relates to the book value of the province of Alberta's 16.7 percent interest in Syncrude and its relative book value. At March

31, 1991, the estimated book value for our interest in Syncrude held by Alberta Oil Sands Equity was about equivalent to the value that was paid by Mitsubishi for the Petro-Canada interest.

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The Petro-Canada sale had two components. One was the cash value, and the other included a formula that resulted in an upside sharing of profits in the event that the Syncrude asset increases in terms of value. Then there would be a cash payment by Mitsubishi back to Petro-Canada as a result of that formula. So it is a little bit difficult to estimate the total value of the sale, but I should say it is fairly close, within a couple of percentage points.

We should note too, Mr. Chairman, that as at March 31, 1991, the heritage fund has received income on its equity investment in Syncrude totaling $518 million. As I've indicated in the past to this committee, the royalties payable to the Crown from the Syncrude project are $1.066 billion since it began production in 1978. Those numbers very dramatically speak to the importance of the Syncrude project not only in terms of its long-range economic development contribution to the province of Alberta, not only to job creation, but also to the return on the investment by the people of Alberta for their ownership of the resource.

The OSLO project, Mr. Chairman, does not have as glowing a future in terms of prospects as I would like to say they have. We, the province of Alberta and the OSLO owners, have been unsuccessful in convincing the federal government to reconsider their withdrawal of their investment in the OSLO project. Simply said, the Syncrude asset, I believe, speaks volumes about the importance of continuing oil sands development not just from a job creation point of view or a self-sufficiency point of view, which are all important issues, but also from the point of view that there is a significant cash flow and return on the investment of oil sands development. I firmly believe that notwithstanding the high success, the high return on the investment of Syncrude, OSLO would be much more successful in terms of its ability just by greater efficiencies in the next generation of oil sands development. Nonetheless, it's not a question of if; it's a question of when, in my view. Security of supply and declining reserves are an important aspect to take into account when considering the furtherance of the OSLO project. It's good for Alberta, and it's good for Canada.

Mr. Chairman, I'd like to move now to the Lloydminster biprovincial upgrader, and its future is very bright. At the end of March 1991 our investment in this project totaled $139 million, and it was a landmark year in 1991. Construction was almost one-third complete up to the end of March 1991. Great progress was achieved this past summer. The project is on schedule. The peak construction period in 1991 employed 2,700 people, and the project leaders are now confident that there will be a partial start-up of the project in the spring of 1992, with the plant coming into full production by November 1992.

In summary, Mr. Chairman, let me reiterate that the heritage trust fund has provided valuable assistance to the vital energy projects under my responsibility. The use of funds has been somewhat judicious and measured, and we believe we'll have long-term benefits for all Albertans now and in the future. Albertans are proud of our energy resources, and I've certainly had that reinforced to me as I've traveled throughout the province. It's not only in our conventional oil and gas or oil sands; it's also in the power of wind and the power of the sun. Expenditures on and investment in our energy resources by the heritage fund support and enhance the vital research and development and keep Alberta at the cutting edge of the energy industry.

Mr. Chairman, speaking of being on the cutting edge of research and development, I would ask with your concurrence that Mr. Yurko bring us up to date briefly with AOSTRA and specifically with his commercialization efforts.

MR. CHAIRMAN: Okay. We'll recognize Mr. Yurko for some brief comments in those two areas.

MR. YURKO: Thank you, Mr. Minister. I think first of all I'd like to say that the Heritage Savings Trust Fund money originally approved for AOSTRA, the Alberta Oil Sands Technology and Research Authority, was $418.7 million. We have invested that in research and development. The last amount we got was the end of the year 1989-90, $5.1 million. We haven't received any money from the Heritage Savings Trust Fund in '91-92. We are now totally on GRF funding, and it's caused a considerable amount of difficulty because we can't commit projects on a long-term basis, which we could before, and many of our projects are two-, three-, four-, and five-year projects. I wish to heck that back in 1974 when we passed the Act and '75 when we set up this amount of money, we would have put it in the bank and used the interest for research and development. We'd still have $500 million in the bank and $50 million every year for research and development, but that's not what we did, Mr. Minister.

I would like to start very briefly by saying something the president of Syncrude said to us in Banff at our meeting just recently. We had a conference. I want to read just a couple of paragraphs of his speech.

> In Canada, National Energy Board forecasts show that the production of conventional light crude oil is declining rapidly. Since 1973, for example, production has decreased by 500,000 barrels a day. Over the last two years alone, we have lost 85,000 barrels per day – a number which coincidentally is equal to the proposed OSLO oil sands megaproject.
>
> In Alberta the rate of decline . . . [interjection]

I'm going from this on to our commercialization.

MR. TAYLOR: I'm sorry. Mr. Chairman, he said 500,000 barrels a day. Does that exclude the upgrader?

MR. YURKO: If you'd just let me read what Mr. Newell said to us.

MR. CHAIRMAN: He's just reading a quotation, hon. member, and that's all he can give you. Perhaps you can come at him with a question.

MR. TAYLOR: I want him to explain the quotation.

MR. YURKO:

> In Alberta, the rate of decline has been alarming. In 1989, Alberta's production of light crude was about 792,000 barrels a day – 6 percent less than expected. In 1990, the decline was even steeper – a sharp 8 percent less than the previous year. By the year 2004, the province's light crude production will be only 415,000 barrels a day – or about 50 percent of the 1989 production rates.

As he gets into the oil sands:

> In contrast, in 1989, production from oil sands was about 335,000 barrels a day; with 205,000 barrels a day of synthetic crude . . . from the two integrated mining facilities (Syncrude and Suncor) and 130,000 barrels a day of bitumen from the in-situ projects. This total represents more than 20 percent of the total Canadian oil production, a ratio which will increase as conventional supplies continue to diminish.

What he's trying to say is that the need for expansion in this area is vital, and he goes on to say that in his speech.

What I want to say is that with all the investment of money in AOSTRA, a year and a half ago I decided to change the organizational structure and put a director and part of the organization as that part associated with commercialization and the sale of technology. To give you what has happened with AOSTRA since we invested the money, we have a series of projects now that have been commercialized. One, of course, is the Shell Peace River facility. It's produced over 10 million barrels of oil. We have the BP Cold Lake project which has become commercial, and it's produced over 10 million barrels of oil. We have a series of pilot plants that have produced a million barrels of oil and above. In the area of enhanced oil recovery, we have three projects: the Norcen Bodo steam project, the Vikor project, and one other project producing additional oil from conventional reserves with CO_2 injection. One of the most exciting is the Vikor plant, which is now going to commercialization after buying CO_2 from Nova with our assistance. They're now going to commercialization. What I have here is a little booklet that I issued in terms of projects that are going commercial with AOSTRA technology.

2:22

In addition, I want to say unequivocally that one of our most exciting projects is the Underground Test Facility, which some of you visited, in Fort McMurray. We have seven industry partners with us in that project, and they're all excited about what's happening. We've done an economic study with Syncrude recently, and the cost of production is considerably less than surface mining processes, 30 to 50 percent less on the basis of this study with Syncrude. We're doing an analysis with Suncor also on the same basis, and we can also go under the tailings ponds without moving the tailings ponds.

This is the twin well, steam-assisted, gravity drainage project, and at the Underground Test Facility we worked initially with 60-metre long horizontal wells. We are now going to 600- or 500-metre long wells within the reservoir itself. We've just put in three sets of wells for 500 metres into the oil sands, and our indication from the initial experimentation is that it is the lowest steam/oil ratio of any experimentation we've done, in the order of 2 to 2.4, whereas we've been up at 4 and 5. The recovery, from what we have experienced, is of the order of 60 percent of the bitumen in place, and we and the companies are very excited about a new technology we've suddenly developed in the Underground Test Facility. We're now moving to produce 2,000 barrels a day, which is the semicommercial or demonstration facility, and from there we will move into a commercial facility. We hope to get two more partners. One is Japex, and the other is Syncrude and perhaps even Suncor, and the Chinese oil company's interested very much in coming in as a partner. Now, we're giving each partner that comes 8 and a third percent of the lease. We have 12 such leases. We're going to keep two for AOSTRA and give 10 out. We've given seven out now; we're going to give another three.

I want to give you this little booklet because it does give you an idea of where we've succeeded commercially in CO_2, in enhanced oil recovery, and it gives you some idea of where we've gone to production like the Peace River one and the Cold Lake one and where we anticipate to go with respect to our Underground Test Facility and some of our other processes.

The AOSTRA/Taciuk processor has been very successful. We've tested it massively on shale; we hope to have a facility in Australia on shale. We've tested it on cleaning up wastes, and we've given UMATAC, a branch of UMA Engineering, exclusivity in using this facility for cleaning up wastes. They have built a unit, and it's been in Wide Beach, New York. They've cleaned 40,000 tonnes of material in that little town, and they've taken the oil – they used oil to spread on the roads and so forth – with PCBs up to 1,000 parts per million. They have now cleaned that site with our facility totally, taken out all the oil, lowered the PCBs down to 5 parts per billion or thereabouts. There are 1,200 such sites in the United States, and our facility will be used to clean up these sites. This facility's now being moved to another site to clean up in the United States.

This tells you something briefly on each of these projects that we're now moving towards commercialization which have been fairly successful. Mr. Minister, I have two, four, six, eight, 10, 12 here. Is that sufficient?

MR. CHAIRMAN: Yes.

MR. YURKO: I should keep one for myself, but it doesn't matter.

We're on the stage of moving up the mountain towards success, and there is just no doubt about it of the total reserves we have in oil sands; we have approximately 2.3 trillion barrels in place. In the Athabasca one there are 900 billion barrels in place, 900 billion barrels. Ten percent is recoverable by surface mining, or 90 billion barrels approximately. The other has to be recovered by in situ processes, and this new process we've developed, this twin horizontal well system, steam-assisted, gravity drain thing seems very successful. Our estimated production costs are in the order of $3 to $4 a barrel for the production of bitumen, and the price, at 8 percent of capital, is also in the order of $3 to $4 a barrel. So we're looking at producing with this system in the order of between $6 to $8 a barrel of bitumen, and this is a study done independently with Syncrude and independent consultants. We're just very excited that suddenly this massive Athabasca deposit is available at reasonably low price for production of bitumen.

Now, upgrading is very important, and this biprovincial upgrader is extremely important. We've talked behind the scenes repeatedly about our regional upgrader. This is one, and we're going to have some more. As a matter of fact, we're now beginning to look seriously at the possibility of Suncor becoming a regional upgrader. There's some work behind the scenes on that and indeed the fact that Syncrude itself can be expanded in the upgrading area and buy bitumen from smaller companies that produce it.

All I'd want to say is that we're halfway up the mountain. We're looking up, and we're beginning to see the sun. We think that bitumen development in Alberta is going to start to take a new dimension into the future as we go.

Now, the environmental consequences of this system underground, that we can go from the surface underground with our twin well – you know, go in a mine, or we can go at a slant-hole mine; we can go a number of different ways – have been estimated in the study to only be about 2 percent of what they really are with surface mining and tailings ponds and so forth.

So all I can say is that we think we are at an exciting point in the development of technology for oil sands development. I think that's sufficient.

MR. ORMAN: Good. Thanks, Bill.

Mr. Chairman.

MR. CHAIRMAN: Thank you, Mr. Minister and Mr. Yurko, for your overview. I think we're all familiar with how excited Mr. Yurko is over what he and his committee and people at AOSTRA have been able to accomplish. Many of us did visit that facility last year, and it's interesting to note the progress they've made in

their costs of production just in that one-year period. If my memory serves me right, there has been a dramatic improvement.

However, it's not the chairman's position to talk, but rather to go on with the meeting, so I'll recognize the Member for West Yellowhead, followed by the Member for Lloydminster.

MR. DOYLE: Thank you, Mr. Chairman. My questions are in regard to the renewable energy development in southwestern Alberta. There has been some money spent on it this year, and I was wondering if the minister could inform the committee: are these things being developed on an experimental basis? I understood them to say that they weren't. Is there a need for power in that particular area? Is that the reason they're being developed just in that area and money not going into other sources of alternate energy like geothermal?

MR. ORMAN: Mr. Chairman, the answer to the question is, I think, multifold. Let me first say that the decision to establish the renewable energy initiative in southwestern Alberta was, first, because of its access to high wind velocities. The annual amount of wind that blows in southwestern Alberta was really a contributing factor to establishing this project down there, particularly the wind related projects. Secondly, there's a high level of sunshine in that part of the province, among the highest anywhere in the country. The third aspect was that it was a part of the province that was in need of some sort of economic development initiative. Those were all the contributing reasons for the commitment that was made by the Premier, I believe in 1985, to establish this project in that part of the province.

With regard to commercialization of these projects, there is a combination. Some are quasi-experimental, some are quasi-commercial, and the intent at the end of the day is to have all these projects demonstrate that they can reach full commercialization and produce renewable energy into the electric power grid. As we know, Mr. Chairman, between 80 and 90 percent of our electrical power generation in this province comes from coal, and we would like, through this initiative and our small power producers program, to create an opportunity for other alternative energy initiatives to generate power into our electrical grid other than from nonrenewable resources. So the answer is that there is a combination of all of those that contributed to the decision.

2:32

MR. DOYLE: Thank you, Mr. Chairman. Of course, the Official Opposition always supports environmentally friendly things like the wind power. My question really was, though, how much of a need there was for it in that part of the province.

My question, now that the minister has mentioned coal, is the investments of Alberta Energy of $167 million. Eight million dollars went this year to Alberta Energy. As the minister is well aware, Alberta Energy has several millions invested in the mines in the Hinton-Edson area. My question would be: what is the minister doing to protect the investments of the heritage trust fund in regards to the sale of western coal to the eastern markets or to the Pacific Rim or other parts of the world?

MR. ORMAN: Mr. Chairman, the hon. member's going to have to refer me to the citation in the annual report that deals with coal.

MR. DOYLE: Alberta Energy is page 16.

MR. ORMAN: You're talking about Alberta Energy Company?

MR. DOYLE: Alberta Energy Company Ltd., yes.

MR. ORMAN: Oh, okay.

MR. DOYLE: They have shares in Luscar Sterco in the Coal Branch.

MR. CHAIRMAN: Hon. member, remember we did discuss that at the beginning of the meeting. Alberta Energy is strictly an investment under the Alberta capital division and doesn't fall under the purview of this minister.

MR. ORMAN: I can say, Mr. Chairman, simply that the government of Alberta takes no role in the management of Alberta Energy Company. We simply have an equity investment in the company. The operations as set out in the original mandate of the Alberta Energy Company were that they would be managed by the management without government interference. So I can't speak nor do I have specific knowledge of all of the investments of Alberta Energy Company, but certainly I could undertake outside of this committee to generate the information the member requires with regard to Alberta Energy Company's investment in coal.

MR. CHAIRMAN: Well, if the minister is prepared to do that, the Chair doesn't have any opposition to it, but perhaps the member could direct his final supplementary to . . .

MR. DOYLE: Thank you, Mr. Chairman. My question was more as to what the minister is doing in regards to the sale of coal to other markets.

I will change to Mr. Yurko. Indeed, it's a pleasure to have you and Mr. MacMurchy – and I didn't get the name of the other gentleman who is present.

MR. ORMAN: Woronuik.

MR. DOYLE: Thank you.

It's with regards to AOSTRA, Mr. Yurko. I was one of the ones who were fortunate enough to tour AOSTRA last year. I was very pleased with the development. Having worked underground previously in my lifetime, it kind of brought me back home. My wonderment was, though, what you're doing with the waste heat and waste energy, as you have to cool the bitumen once it's brought up to the surface. Is there any viable way of having greenhousing in that area or some other commercial alternative that may hold some of that heat for some other developments in the Fort McMurray area?

MR. YURKO: Well, the ratio of water to bitumen that we produce by this gravity drainage system – and you have to remember that the temperature is not very high because water and oil are produced together – is about three parts of water for one part of bitumen that's produced. We're examining putting in a separation facility to separate the water from the bitumen so that we send the bitumen to Syncrude with only about 5 percent water. In the process of doing this, we have an internal absorption of heat as necessary. We are looking at various systems for this separation and transportation, and AEC has given us a proposition right now of building a pipeline to transfer this from the underground test facility to Syncrude without any capital costs on our part, just to pay for shipment.

I should say that we're also looking seriously at sending the material to Syncrude without separating the water at our site, depending on the costs. Syncrude has told us that they will now

give us 50 percent of the price of bitumen, about $11 at our Underground Test Facility, if we separate the water. We've asked them what they would give us if we didn't separate the water and then they separated the water and it got that additional heat – it's not that high really because, as I said, it's condensed water and bitumen – and they're going to give us a price by the end of this month on what they would pay us for our bitumen, because we're going to be producing 2,000 barrels a day from our three sets of wells. They've indicated they'll give us a possible price for the bitumen with the water by the end of this month. They have already told us unequivocally in the form of a letter that they'll pay us 50 percent of the price, or around $11, if we separate the water and send them the bitumen, and they'd upgrade it at Syncrude. So we feel pretty good in terms of the total aspect including any waste energy that we think we'll be able to minimize at our facility.

MR. CHAIRMAN: Thank you.
The Member for Lloydminster.

MR. CHERRY: Thanks, Mr. Chairman. Good afternoon, gentlemen. I'm wanting to speak on the biprovincial upgrader for a few moments. A question that I would like to put forward to the minister is that we have put an additional roughly $42 million into Alberta's share of the project. Certainly no one will argue that it isn't the best investment that we have ever done in this province, but at the same time, will that $42 million be included in our share capital, or is that in the form of a loan that will be paid back first? I guess, basically, where does it fit into the picture?

MR. ORMAN: Sorry; can you repeat the question? I want to get a handle on this.

MR. CHAIRMAN: I think the member wants to know if we're taking equity with that $42 million or if it's a loan.

MR. ORMAN: It's equity.

MR. CHERRY: The other thing – and you spoke on it earlier, Mr. Minister – is the return that we're going to see from the upgrader and that. The forecast that we're getting now because of the differential: I wonder if that's short term. I guess it would have to be. I guess I'm answering my own question, but I would like to ask you: are the forecasts that we're hearing now long term or short term as far as the differential rate is and the return that we will see? I've heard some different statements that, you know, we can see our equity back to us in a very short time. I wondered if you might just comment on that for a few moments.

MR. ORMAN: I'd be pleased to, Mr. Chairman. Although I was not part of the initial negotiations for the biprovincial upgrader involving the provinces of Saskatchewan and Alberta, Husky, and the government of Canada, I am aware of the profile by which the project was negotiated. As you know, you assume three scenarios – a low, a mid, and a high range – in terms of a price to plug in to come up with a return on your investment. As I recall, the most likely range was between a $5 and $7 differential between heavy oil and light gravity crude, and it was, at a $7 differential, a 10 percent return on our investment. The differential has substantially increased, up to $9 a barrel, so it is significantly higher than when an optimistic case was made a couple of years ago when the negotiations occurred. You don't have to be an MBA from Harvard, Mr. Chairman, to understand that the higher differential for heavy crude and light crude will significantly advance the payout period in the return on our investment.

Now, I can't assure hon. members that this differential will be in place at the time the project comes on stream. Projections are that it will continue to be a fairly high differential, in the $9 range, and if that's so, it will substantially improve the prospects for a return on the investment that this committee approved.

2:42

MR. CHERRY: Good. My other point, which I asked the Provincial Treasurer yesterday, and I'll ask you the same thing, Mr. Minister, is: with the change now to a socialistic, communistic government over there, will that have anything to do with our agreement, or is it ironclad?

MR. ORMAN: Well, Mr. Chairman, maybe you might ask one of them; you've got the Member for Calgary-Mountain View here. He might be able to offer you a better insight as to how the government in Saskatchewan is going to relate to the government of Alberta, but I would expect that the government of Saskatchewan, regardless of their political stripe, would live up to their agreements, and we certainly will encourage them to do that.

MR. CHAIRMAN: Thank you.
The Member for Westlock-Sturgeon, followed by the Member for Calgary-Fish Creek.

MR. TAYLOR: I'd like to ask a question. It might be to the minister or Mr. Yurko. When I read all these projects that AOSTRA is involved in and the number of pilot projects and how long they've been going on, as I recall – I was associated with one many years ago – they did not pay any Crown royalty. Are we by any chance – I don't like to use the word "hoodwinked" – in danger of having projects all over the place that are really commercial being called pilot projects because they don't pay a royalty?

MR. ORMAN: Unlike the projects on Canada lands in the past, you mean? Mr. Chairman, I'll turn it over to Mr. Yurko.

MR. YURKO: I don't know when, but the policy was made quite some time ago that royalties were not to be paid on gas used for experimental purposes, for piloting and so forth.

MR. TAYLOR: Yeah; if it's experimental, they don't pay a royalty.

MR. YURKO: That's right.

MR. TAYLOR: Yet some of these things have produced millions of barrels and have not paid a cent to the taxpayer.

MR. YURKO: Now, let me suggest that the Peace River facility and the BP facility are production facilities. You'd have to look and see the royalty structure there, but the others that I told you about, a million barrels a day produced over a period of eight to 10 years, haven't paid any royalties. Now, some of the enhanced projects – for example, the Vikor one that's going now as a commercial facility. I'm sure that as it goes to production on a commercial basis, it will be paying the royalty, but as an experimental setup I'm sure it didn't pay the royalty.

MR. TAYLOR: Possibly you could write further on it, but I believe that if they're called a pilot project, they don't pay a royalty, and some of those have been here for a long, long time.

MR. ORMAN: All pilot projects pay a royalty on the bitumen they use in their projects. As Mr. Yurko pointed out, natural gas for these projects is used royalty free, but there is a royalty on the bitumen. The only exemption from paying the royalty would be the Alberta Oil Sands Technology and Research Authority, but that's understandable.

MR. TAYLOR: A supplemental, then, although I hate to waste the question. I think the royalty, if it's not zero, is just token, though, isn't it? For clarification: is this the regular royalty that anybody would pay that produced a barrel of oil?

MR. ORMAN: No, it's not. The royalty for bitumen is lower than for conventional oil and gas.

MR. TAYLOR: It's almost insignificant.

MR. ORMAN: Well, I wouldn't say it's insignificant. It's around base 5 percent with no deductions and processing fees as you get, say, for natural gas or other products.

MR. CHAIRMAN: This would be your final supplementary, I think, after that.

MR. TAYLOR: I asked for some clarification.

MR. CHAIRMAN: I understand that, but with all of that, surely you used up one question.

MR. MITCHELL: But if the answers aren't clear in the first place . . .

MR. TAYLOR: I mean, they had to talk amongst themselves, go back and then come back.

MR. CHAIRMAN: Could you just go ahead with the question?

MR. ORMAN: I'm sorry if I'm unclear. The Member for Edmonton-Meadowlark says I'm unclear. I wouldn't like to leave anything unclear. What is it that the members are unclear about?

MR. CHAIRMAN: I think the Member for Edmonton-Meadowlark can use his question to find that out when his turn comes.

MR. TAYLOR: The question was only one: what would the royalty be on the thing? That's number one. The second question then – and if it took three or four people to answer it, that's not my fault.

MR. CHAIRMAN: Unless there was some part of enunciating the question that may come into play there. But would you just go ahead with the question?

MR. TAYLOR: I made it about as simple as I could, Mr. Chairman, and realize that . . .

MR. CHAIRMAN: Go ahead with the question, hon. member.

MR. TAYLOR: . . . who I was directing it at . . .

MR. CHAIRMAN: Could we have the other question, please?

MR. TAYLOR: If you want keep me busy here, we're going to be here a long time.

The second question was also on AOSTRA and the mining, and this is just a curiosity thing. Is there any gas given off in your tunneling method?

MR. ORMAN: The origin of the gas, Mr. Chairman, is coming from Westlock-Sturgeon.

MR. TAYLOR: You see these gas producers in the back row? They get paid $36,000 a year for their gas no matter which end they produce. But go ahead; what's your answer?

MR. YURKO: All I can say to you is that our safety aspects in our underground facility are very high safety standards. We have no gas leaking in the tunnels. Now, whether or not there is any gas in the bitumen, we haven't really experienced any difficulty in that regard. I should say that the horizontal well type of facility is sensitive to gas lock, as you know, and we may be doing an experiment before very long on a particular reservoir that has gas above it and water underneath it. But this is conventional oil with a horizontal line. This is an area of experimentation that I think will be undertaken in Alberta to some degree, because there are reservoirs that there's still a lot of oil in, but, you know, you just get water and gas pushing out the oil.

MR. TAYLOR: Sorry about the question; I thought it would be an easy one.

MR. CHAIRMAN: Thank you. Could we have the third question?

MR. TAYLOR: Yeah. The other thing is you have charge of wind and tar sand and everything. How come ethanol or alcohol production is not part of your department's experimentation and responsibility? Why aren't you working in that field?

MR. ORMAN: The Department of Agriculture and the Department of Economic Development and Trade have been responsible for the assessment and research with regard to ethanol, Mr. Chairman.

MR. TAYLOR: I know who is, but why?

MR. MOORE: That's his third question, Mr. Chairman.

MR. CHAIRMAN: All right.

MR. ORMAN: I don't make the rules, Mr. Chairman; I just live by them.

MR. CHAIRMAN: Perhaps you could ask that question of the Premier when he appears on Thursday.

MR. TAYLOR: I asked a question. I know where it is. I want to know why it's there; that's all.

MR. CHAIRMAN: I understand that, but he's saying that he doesn't make that decision. It likely would be made by the Premier.

MR. TAYLOR: He doesn't make the decision. Okay. All right. That's good enough.

MR. CHAIRMAN: Okay? Thank you.
The Member for Calgary-Fish Creek.

MR. PAYNE: Mr. Chairman, first of all, I'd like to thank Mr. Yurko for making available to us a copy of this publication, *Commercial Success Update.* It flows somewhat naturally from the comments he made last year with respect to commercialization, and I'm sure I speak for many of the members of the committee in saying we're heartened by the progress that's been made in the commercialization sector as well as the sale of technology.

In Mr. Yurko's comments last year, Mr. Chairman, regarding the sale of technology, he cited the figure of $1 million a year, and I wondered if Mr. Yurko could update that figure for us and give an indication, ballpark if necessary, of the revenue from the sale of technology over the past year?

MR. YURKO: Did you get a copy of our annual report? I think the minister distributed it to all MLAs.

MR. PAYNE: Yes.

MR. YURKO: You'll find the figures in there.

MR. PAYNE: Could you refresh my memory?

MR. YURKO: I beg your pardon?

MR. PAYNE: I don't recall reading that section of the report. Could you refresh my memory?

MR. YURKO: If you don't mind, it says technology sales, for example, and it listed technology sales in '87, '88, '89, '90, '91. Let me give you some figures. Technology sales in 1987 were $1.227 million; in '88 it was $1.3 million; in '89 it was $774,000; in '90, $664,000; in '91, $534,000. It's going down a bit because we're pushing into commercialization to a large degree rather than just selling raw technology.

MR. PAYNE: Thank you. That really takes me into the next question. What you're telling us is that there's a direct correlation between the decline in technological sales, the revenue therefrom, and commercialization.

MR. YURKO: Well, there's partial. The other . . .

MR. PAYNE: The other thing we were given last year.

MR. YURKO: Yes, but the other aspect is, of course, that the economy is tending to go down and people are pulling back instead of moving ahead. They're just not buying as much technology as they did a couple of years ago. We're trying to push this; we're having some incentives in terms of trying to increase the amount of technology sales.

MR. PAYNE: Mr. Chairman, referring once again to *Hansard* of October 24, 1990, Mr. Yurko made the comment, "In all of our contracts there is a way of recovery of the money we've invested if they produce." I'm wondering if Mr. Yurko today could elaborate on the mechanisms for such recoveries and perhaps quantify the amounts that have been recovered over the past year?

2:52

MR. YURKO: Yes. Let me state that before I came on stream, the agreements read that we would get back a certain percentage or a certain amount of the profit. For example, Peace River in our agreement was to get back $24 million, but it's $24 million of profit made by Shell in Peace River and not on gross sales. I've changed it now to gross sales in all cases. However, we're now discussing with Shell whether or not they've made very much profit on their $10,000 a day facility in Peace River. They're suggesting to us that they haven't made very much profit, so we're not going to get very much of anything of our $24 million by the end of April, but we have in our agreement the recovery of $24 million on that pilot facility that we sold to Shell.

Now, for example, in the agreement that I signed with UMATAC in terms of building this facility for cleaning up Wide Beach, we have a 5 percent royalty, and it's paid on gross income. From hereon in, in almost all cases, our agreements relate to a recovery of money from gross income when they go commercial rather than net income. It's net income or gross income really. But we do have clauses in our agreement whereby we do recover. We do recover our investment in some of these projects when they go commercial.

MR. PAYNE: Mr. Chairman, finally, I was interested in, perhaps even concerned about, Mr. Yurko's opening comments wherein he indicated some discomfort at now being funded entirely from the GRF as opposed to the heritage fund. I believe Mr. Yurko indicated that it made it difficult for longer range planning. I wonder if the minister would be prepared to respond to that earlier comment of Mr. Yurko's. I think it would be of help to the committee.

MR. ORMAN: Well, Mr. Chairman, Mr. Yurko made it. I'd ask Mr. Yurko to respond to it; I think that would be appropriate. Are you asking if I agree with Mr. Yurko?

MR. PAYNE: Yes, or if in fact there's a rebuttal to it or there's an alternative consideration with respect to the planning needs of a body like AOSTRA.

MR. ORMAN: I would say that planning on an annual basis is confining, whether it's AOSTRA or whether it's the Department of Energy or Department of Health. It has implications in terms of long-range planning; however, we do our budgeting on an annual basis because it provides greater accountability on a year-to-year basis. I believe that's the spirit and intention of annualized budgets.

I wouldn't take any exception to the comment that it is confining. I think that's not unique, whether it be to the Research Council or AOSTRA or any other arm of government. We have to work within that framework. It doesn't eliminate long-range planning. I think Mr. Yurko would agree and I certainly agree that we have a substantial investment through the heritage fund in oil sands research and it is time now to capitalize. I think that's the point the Member for Calgary-Fish Creek was getting at earlier in his question: where are we on commercialization; are we getting the return that the people of the province of Alberta would expect from the $500 million-plus invested in oil sands research?

I would suggest that the opportunity is great. It's not as high as we would like it to be. The economy has played a role, as Mr. Yurko has indicated. Notwithstanding where his budget comes from or how his planning is determined based on that budget process, our objective as a government is to maximize commercialization at this particular point.

MR. PAYNE: Thank you, Mr. Chairman.

MR. CHAIRMAN: Thank you.

The Member for Calgary-Mountain View.

MR. HAWKESWORTH: Thank you, Mr. Chairman. Welcome to the minister and staff and Mr. Yurko this afternoon. A question I'd like to sort of start off with has to do with an announcement made today by Nova that they were selling their 43 percent of Husky Oil to Mr. Li Ka-shing of Hong Kong for $330 million. I know he's already a significant shareholder of Husky Oil. My question relates to a sort of ongoing commitment to the bi-provincial heavy oil upgrader. As I understand it, the province of Alberta is going to have to come up with somewhere in the order of $42 million or so to meet our share of that project. Looking at Husky Oil's percentage share of that project, my estimate would be that they're going to have to come up with another approximately $50 million. My question to the minister is this: first of all, could he clarify how much extra equity Husky is going to have to invest to cover their share of the cost overrun of the upgrader, and with this change of ownership of Husky, does the minister have any doubts or concerns whether that money will in fact be committed? Does the new majority owner of Husky have any choice? Are they just required by the agreement to come up with that extra funding?

MR. ORMAN: Mr. Chairman, it's an excellent and timely question. First, I should say that the province of Alberta has no equity in Husky other than the $175 million investment through the convertible subordinated debenture of Nova and, I believe, in excess of 2 million common shares in Nova; in effect, no direct investment in Husky.

Mr. Chairman, I'm frankly quite relieved by the willingness and the presence of the Li family with regard to Husky. Husky is in a relatively distressed situation in terms of its ability to meet future capital requirements. I spoke with Victor Li and his lawyer along with Art Price, the president of Husky, just this morning. I was wanting to get a sense of the import of the acquisition, the taking out of the balance of the shares of Husky by the Li family. They indicated to me that they were more than willing to live up to the current commitments and saw that in addition to the cost of acquiring the balance of the Husky shares, they will be making a commitment of between $400 million and $500 million in the future to Husky.

Mr. Chairman, I would be extremely concerned for the long-term viability of Husky's involvement in the province of Alberta if someone like the Li family did not come forward. They have a very significant financial strength. They understand the Husky asset. They already are a majority shareholder, and the commitments that are in place with regard to the Lloydminster upgrader will remain a commitment of Husky under the new ownership. For that reason I'm frankly pleased at the strength and commitment that the family brings to the province of Alberta through its investment in Husky.

MR. HAWKESWORTH: Thank you, Mr. Chairman. Could you just clarify? From my first question my understanding is that about $50 million would be required from Husky.

MR. ORMAN: Forty-seven million dollars.

MR. HAWKESWORTH: Forty-seven million dollars; okay.

Mr. Chairman, I'm trying to sort of get a handle on the cost overrun. Nobody likes to see them in any construction project. My understanding is that it's about $175 million over budget. I assume that's on the total cost of about 1 and a quarter billion dollars. My quick, rough-and-ready math indicates to me something like a 15, perhaps 17, percent cost overrun. I guess we don't have much choice but to commit the additional moneys, but I'm just wondering if the minister would tell us what the factors were that led to the cost overrun and what steps, if any, are being taken to ensure that that is the last of it.

3:02

MR. ORMAN: Mr. Chairman, the total cost overrun is not $175 million, although that has been approved by the partners. The total current estimate for cost overrun is $135 million, which is in the range of about a 10 to 12 percent overrun.

A number of factors have contributed to the cost overrun. I should mention to the hon. member that in projects of this magnitude, when you're talking about $1.2 billion to $1.3 billion, in trying to do an estimate two or three years ago in terms of trying to forecast what actual expenditures will be, it becomes very difficult. The cost of capital changes, the interest rate changes, your labour costs, your costs of equipment: you know, there are a number of factors that can change, that are not fixed when you do your forecast, and these all have contributed to this 10 to 12 percent cost overrun. I would say that that is not out of line with any other major project of this size in terms of the difference between forecast and actual. Obviously, no one likes to see it, but it is significantly offset by the increase in differential that was originally forecast. As I indicated, the high case was $7 differential, and now it's $9. So if you step back and look at the project as a whole, re-evaluate it based on the differential, and look at the cost overrun, it is quite insignificant.

I don't know how to comment other than that, Mr. Chairman. It's there. All the parties have committed to it. We have approved by the partners about a $40 million additional increase in the event it's required, but make no mistake; we are watching very, very closely the costs of the project and monitoring it to make sure that we do not allow for any undue overruns in construction costs.

MR. HAWKESWORTH: Thank you. Mr. Chairman, the minister in his opening comments spoke about minimizing expenditures and maximizing returns. I concur with that objective, but when partners are required to sort of make this extra investment on the equity side, it's going to have some kind of impact on the bottom line. Could the minister perhaps give us some indication – maybe a little more specific than he has so far, both just now and to the previous question asked by the Member for Lloydminster – what impact this commitment of extra funds, this extra equity to the upgrader is going to have on the income generated by the Heritage Savings Trust Fund in, say, future years when the upgrader comes on stream?

MR. ORMAN: Mr. Chairman, it has an impact of up to a maximum of 1 percent on the rate of return, so there's a 1 percent impact on the bottom line in terms of the return on our investment.

MR. CHAIRMAN: Thank you.

The Member for Athabasca-Lac La Biche, followed by Edmonton-Meadowlark.

MR. CARDINAL: Thank you. My question to the minister is on renewable energy projects. I believe you indicated that the wind research test site information centre in Pincher Creek has proven to be an effective means of communicating with the public and liaison for interested applicants. Because of the information centre's success, is the minister considering the opening of other

information centres around the province for public education and liaison for possible new initiatives?

MR. ORMAN: Mr. Chairman, it is a good question, because in today's day and age it's not only doing the right thing; it's providing the information and background on the reasons behind doing the right thing. I know the Member for Athabasca-Lac La Biche has a particular interest in renewable energy resource development, because from his constituency come initiatives under the small power producers program that we have in the province. Fiscal resources willing, I certainly would be pleased to recommend broadening the information centre concept around the province to make the public more aware of the opportunities available through alternative energy sources. Our project in Pincher Creek has a number of new wrinkles in it, new ideas, different directions that we are going to assess to determine whether we can broaden the application to other parts of the province. Part of that process will include consideration of information centres for other renewable energy projects. It is not a priority. I should not leave you with that impression, Mr. Chairman, but it is important to the overall communication of the success of renewable energy to the people of Alberta.

MR. CARDINAL: My first supplement is, like you indicated, because of my interest in the proposed South View-Athabasca $75 million, 30-megawatt electrical energy plant utilizing biomass, which includes sawmill waste and pulp mill waste and other forestry initiatives. I think it is probably critical that we look at an information centre related to that type of industry also. Is it possible to look at something like that as a second phase of the information system?

MR. ORMAN: Mr. Chairman, I find and firmly believe that the communication aspect of our business of running government is very important. Some would suggest that the dollars are better spent in developing projects that facilitate and enhance the development of renewable energy rather than on a bricks-and-mortar concept for disseminating information. I'm somewhat swayed by the suggestion and the arguments presented by the Member for Athabasca-Lac La Biche, and I will undertake to consider it during expansion considerations of our renewable energy projects that we have.

MR. CARDINAL: My final supplement. I believe that under the small power producers Act we have a 30-megawatt allocation now which is generally all allotted. Is there any indication that we may move forward to increase the allowable production and sale of electrical energy created by projects like South View-Athabasca?

MR. ORMAN: Mr. Chairman, I must submit that this is not a project that is funded through the Heritage Savings Trust Fund.

MR. CHAIRMAN: The project that he's speaking of?

MR. ORMAN: Yes. So I don't know whether it's appropriate to go into any great detail on the small power producers program.

MR. CHAIRMAN: I really believe that perhaps he could get the information from you independent of the committee then.

MR. ORMAN: I understand the great interest the member has. He's been very instrumental in making sure that we develop this small power producers program in an appropriate way and that it meets the requirements of the constituents of Athabasca-Lac La Biche, but at another time and on a one-on-one basis I'd be pleased to pursue the member's interest.

MR. CARDINAL: Thank you.

MR. CHAIRMAN: Okay.

The Member for Edmonton-Meadowlark, followed by the Member for Calgary-Foothills.

MR. MITCHELL: Thank you, Mr. Chairman. I'd like to begin by saying that it's my feeling, when I listen to the minister and to Mr. Yurko, that we have two people who are hard-nosed about this business, the business that they're in, that they have a clear grasp of the issues, and that some things are being accomplished. I wanted to state that clearly.

At the same time, as I listened to the minister and to Mr. Yurko, I began to get the feeling that so much of their achievement and so much of their understanding are within a paradigm of thought that is, if not dying, certainly changing in the world. We look at air pollution; we understand the emergence of global warming, of the contribution that carbon dioxide makes to that. We need only travel to any number of large American cities, and in fact to a city like Calgary, whose air, it's said, is about the quality of Los Angeles' 40 days of the year, to understand that there are serious problems with the burning of fossil fuels and to appreciate that the world may begin dramatically to change its demand for that.

I think that the minister has attempted to shift our focus today onto the other side, a new paradigm, which is sustainable energy development. He's got his assistant deputy minister of that division with us, excellent emphasis, and he points out the $3 million that is generated, $17 million of private-sector investment to emphasize his point. But when I add up Syncrude and Alberta Energy Company and Nova and Lloydminster, I see $995 million worth of investment in that kind of energy, and I see $3 million, or less than one-third of 1 percent, investment in sustainable energy, which is energy for the future. My question is to the minister and, if possible, to Mr. Yurko. What more is the minister planning to do in that area? As good as the $3 million is, it is negligible and is not enough.

3:12

MR. ORMAN: Mr. Chairman, the Member for Edmonton-Meadowlark makes a good point. I do not reject any suggestion that we should de-emphasize renewable and emphasize nonrenewable resources where it's possible and where it's reasonable and where it's within acceptable limits given the rate of consumption of energy resources by the people of the province of Alberta. I know that to replace conventional oil and gas and coal production in this province or at least reduce it to any significant extent would require a significant life-style modification by the people of the province of Alberta. If we accept the hon. member's suggestion that we reduce CO^2 production by 20 percent by the year 2010 or 2005 or 2004, and the consequences are that people will not be able to drive their cars in the cities of Edmonton and Calgary, I don't know whether that would be acceptable to the people of Alberta.

Now, the hon. member may have a view of governing that you force people to comply to your view of the world. Our government has a different view. Our government's view is that we move slowly, we move cautiously, we make the public aware of the importance of reducing consumption and fossil fuels, and that they buy into the process that we lay out for them. If they reject the process and if they reject the limits that we put on it, then they will reject us as a government. Mr. Chairman, people want the

government to respond to their wishes. I don't believe the public's wishes are that we move dramatically or in a draconian fashion with regard to reducing consumption of fossil fuels.

On the research side I accept the representation made by the Member for Edmonton-Meadowlark. We have in the past made a significant contribution to oil sands development. In the future I will be pushing from within our government to increase expenditures on research and development of renewable resources. We are learning a great deal from our experiment in southwestern Alberta. As I have indicated to the hon. member, and I will reiterate it, we have made an investment of $3 million over three years, and we have received back in excess of five times that amount in commitment by the private sector for research. At the end of three years that experiment and our ability to go forward as a government and convince the people of Alberta that it's a good investment will be very much determined by the success of that program. We're moving cautiously. We must be reasonable and rational, Mr. Chairman, and I believe that we are.

MR. MITCHELL: I concur with the minister's view that Albertans want government that is responsive. They also want leadership. It's important that initiatives of the kind that we're debating are highlighted and emphasized and that ministers in his position, with his influence become leaders in environmental issues.

I am encouraged to learn that the minister wants to put more money into the pursuit of alternative energy. Could the minister tell us: has he considered, once he sells Syncrude, thereby freeing up a great deal of capital in the heritage trust fund, whether a significant amount of money – and I'm not saying simply $3 million, which isn't that significant – could be put into these kinds of projects both at the development stage and also for the assistance of their commercialization?

MR. ORMAN: Mr. Chairman, I take that on advice. I've indicated before both in this committee and publicly that we will not sell our interest in Syncrude if it is substantially below or moderately below the value that we put on that asset because it does throw off a significant amount of cash flow. If we were successful today in selling our interest in Syncrude, that would return to the heritage fund about $527 million of book value, and I certainly would seek the hon. member's support in carving out a portion of that amount for renewable energy initiatives. I thank him for the suggestion.

MR. CHAIRMAN: Final supplement.

MR. MITCHELL: Thank you. The minister indicated that it wasn't appropriate to force initiatives on Albertans, and certainly none of us would propose that that kind of draconian initiative should be undertaken. However, there are ways to provide incentives. One of those ways would be to scale the payments made to small power producers on the basis of their environmental acceptability; therefore, pay somebody who's producing wind-generated power into the grid more than somebody who is burning peat moss or garbage, for example. That's not to say that the latter shouldn't receive a base rate that makes it possible for a small businessperson or a farmer to diversify using that particular production of energy, but has the minister considered scaling the payments made to small power producers based on environmental acceptability?

MR. ORMAN: Again, Mr. Chairman, the small power producers program does not relate to the Heritage Savings Trust Fund. Let me simply say that as the current program exists, projects can choose between a range of incentives on the avoided cost for new electrical power generation. The Act provides for an incentive of 4.94 cents per kilowatt hour, indexed to inflation, or 5.2 cents, rising to 6 cents per kilowatt hour in 1995, on a fixed basis. So the proponents of projects have options. As they exist right now, they are not specific to picking winners and losers. Again, this project is unique in Canada, its success certainly is unique in Canada, and it is a growing pursuit throughout North America. The concept is not unique to the province of Alberta. Again, to the hon. member, I take the information as advice. As the hon. member knows, it's an Act of the Legislature, and he may wish to propose amendments to the legislation to accomplish what he is suggesting.

MR. CHAIRMAN: Thank you.

The Member for Calgary-Foothills, followed by the Member for Edmonton-Beverly.

3:22

MRS. BLACK: Thank you, Mr. Chairman. I'd also like to welcome the minister and his staff and Mr. Yurko to our heritage hearings today.

Many of the topics that I wanted to ask questions on have already been dealt with, but one of the things I wanted to go back to was the OSLO project. With the intent of securing energy sufficiency and supply for the future, I'm wondering if the minister could first of all give us sort of a rough idea, now that the engineering studies have been completed, what the total cost of the OSLO project will be.

MR. ORMAN: Mr. Chairman, the government agreed to provide $46 million towards engineering studies, with $26 million of this funding contingent upon the studies being completed. There is a range of possibilities in terms of the money being returned to the province, to the heritage fund. The member should know that if the project is estimated a real social rate of return greater than 5 percent, and if the estimated capital costs to production start-up are less than $4.5 million, and the project does not proceed, then the project proponents are required to refund a certain amount of the engineering studies.

I can't answer the Member for Calgary-Foothills' question specifically at this time, Mr. Chairman, because the engineering studies will not be in till probably the end of November, so it's difficult for me to answer the question in total. There is a formula that determines how much of the engineering studies' dollars advanced are paid back, depending on whether they proceed or not.

MRS. BLACK: Then as a supplementary, Mr. Chairman, might I ask: we know that on the project at Lloydminster the payback and payout is based on a price differential. What would be the similar payout on the OSLO project to make the project commercial?

MR. ORMAN: Mr. Chairman, there are no terms for the OSLO project because there is no project at this time. There are proposals on the table that require the contribution of the federal government. They withdrew their support from the project. There are no final terms yet for bringing the OSLO engineering study to commercial operations. There have been a number of different deals at different times, but at this time there just are no terms. That would be something that would be negotiated in the event we got to a go-forward position.

MRS. BLACK: Mr. Chairman, as a final supplementary, if I made the assumption that the cost would be similar to the cost of producing, say, at Syncrude, what would be the total upgraded cost to produce a barrel of oil that is at commercial state? Not straight production but the actual commercial state of production.

MR. ORMAN: Mr. Chairman, at the risk of not speculating on an agreement that isn't signed or negotiated, I should say that the rate of return on both the projects is in the range of 10 to 15 percent real. Now, to try and compare an upgrader to an oil sands project is difficult. I guess you could, on your capital employed, come up with a finding cost per barrel or at least the bottom line in the end, but we're just venturing into the area of speculation, and I'm hesitant to do that.

MR. CHAIRMAN: Thank you.

The Member for Edmonton-Beverly, followed by the Member for Clover Bar.

MR. EWASIUK: Thank you, Mr. Chairman. My questions are relative to the OSLO project. Of course, when the project was announced, there was certainly a fair amount of – you used the word "joy", I think. The projected amount of work it's going to generate here I think would certainly have an impact on the economy of our province. As I understand it, the minister has indicated the engineering studies are progressing and will probably be concluded at the end of 1991, and then the decision to construct will be made by July of 1992. Of course, as I understand it, the heritage trust fund by March 1992 will have invested some $15 million into the project. So my question is to the minister: what is the likelihood of the OSLO project proceeding through the next phase; that is, the construction phase?

MR. ORMAN: Mr. Chairman, as I indicated to the Member for Calgary-Foothills, the agreement with OSLO on the engineering study is basically a deal that was struck in a way that would require the proponents to meet certain economic tests. As I indicated, one is a real social rate of return and the other is estimated capital costs. If those two tests come in under the threshold that's established in the agreement, and if the proponents decide not to go ahead with the construction of the project, the government will be repaid all of the incentives that it has provided. That's estimated to be at about $18 million.

With regard to the balance of the investment, that comes in terms of an equity ownership in the engineering study, and that engineering study has very significant value because it will be used for future projects. Information is quite substantial and would allow a kick start in terms of advanced planning that would be required if the OSLO project was to go ahead, say, next year or the year after.

MR. EWASIUK: Part of the problem, I guess, with OSLO was the fact that the federal government withdrew its support for the project or at least its funding. Are there other interest groups that may wish to fill that void, and is the province considering adding additional funding to OSLO to in fact make it go?

MR. ORMAN: Mr. Chairman, the gap left by the federal government is not easily replaced by private interests because it provides incentives through their income tax system and their ability to provide loan guarantees and so on. Therefore, it is almost impossible for a private interest to bring to the table what the federal government is offering in terms of those measures. Therefore, I don't see a possibility of another private interest. It's not equity that's required; in many ways it's debt that's required to have the OSLO project go ahead.

What was the second part of the question, Mr. Chairman?

MR. EWASIUK: Is the province prepared to add more money to the project?

MR. ORMAN: I should also add that there is an investment tax credit that the federal government has been asked to bring to the table to make the project viable. Again, that can't be provided by commercial interests.

The province of Alberta has taken a position that it would contribute $1.2 billion to the project. We feel that that is a very significant contribution, and we cannot see a rationale for increasing our commitment to the project. If the project is to go ahead, it is going to have to be with the support and assistance of the federal government. We can't provide the types of fiscal measures that the federal government can provide either, because they have broader powers on taxation. Therefore, I do not see a scenario where the federal government would increase their commitment to this project.

3:32

MR. EWASIUK: My final question, Mr. Chairman. The minister may have responded to this already; I thought I heard him say something in this regard. In the event the project doesn't proceed, how soon would the province of Alberta expect to have the heritage trust fund investments written off?

MR. ORMAN: Mr. Chairman, I'm the eternal optimist – sometimes at my peril – and I believe the federal government is still considering the possibility of investing in the OSLO project. I would not count them out. I believe that by early 1992 they will have given strong reconsideration to the position. I can't say, because I don't know, whether or not their reconsideration will result in their participation in the OSLO project. So I would be hesitant at this particular time to start talking about writing off the investment when I am still optimistic that the project will go ahead. However, at this time next year I'm sure I will be in a position to better answer the question for the hon. member.

MR. CHAIRMAN: Thank you.

The Member for Clover Bar, followed by the Member for Three Hills.

MR. GESELL: Thank you very much, Mr. Chairman. Good afternoon, Mr. Minister, Mr. Yurko, and staff.

I'd like to bring us back to AOSTRA for a bit. I had the opportunity actually to visit the site, the underground test facility, and I was very much impressed with it. I'm very excited to hear that the technology being developed there is being proven successful. Let me follow up on the last question from the Member for Calgary-Fish Creek, which related to the opening remarks by Mr. Yurko in relation to funding, Heritage Savings Trust Fund, GRF. If I might put it simply, the way I understand in general terms, capital expenditures were basically funded under the Heritage Savings Trust Fund, and operationals, if I might call them that, are funded under GRF funding. Now, I appreciate the difficulty in budgeting year to year. My question really is: is it the intention or is there a possibility that there may be additional capital funding required in AOSTRA to further that research?

MR. ORMAN: I'll ask Mr. Yurko to speak. I can tell you there is a very significant appetite for research and development into oil sands, and it's a bit difficult to answer. Obviously, if there's

money available, there is a willingness and a desire on behalf of AOSTRA and other private-sector interests to further develop oil sands expertise.

Mr. Yurko, you may have a further answer.

MR. YURKO: Let me first say that money invested in AOSTRA is pretty well used up within Alberta, and most of it just pays wages to Albertans. I asked Mr. O'Brien one day to calculate the money that goes through AOSTRA, how much comes back as income tax to the provincial government and how much goes to the federal government. I don't think he has done it yet. The point is that this money is circulated in Alberta and is paid to Albertans. Indeed, it creates a technological pool that's substantive, and it gives Alberta an international aspect of substantive proportions. You'd be surprised at the nations coming to Alberta now to see what technology we have and the interest there is for getting oil out of shale, cleaning waste, getting oil out of oil sands, enhanced oil recovery, and so forth.

Let me say that while we were being funded, the administrative fund was always funded from the GRF, $3 million to $4 million a year. So the government could control the amount, the number of people, the number of people in AOSTRA; it controlled 51 maximum. This is very unusual; you control the number of people we have in terms of the number we put on on a maximum basis.

The Capital Fund was from the Heritage Savings Trust Fund, but it came into a fund controlled by Treasury, so the interest was accumulated to Treasury rather than to AOSTRA. AOSTRA just got the dollars; interest was within Treasury. I said that if we had the interest, we'd use the interest, and we'd have kept that capital all this time.

Now let me say that Alberta has the largest oil sands or hydrocarbon resource effectively in the world. As I've said, we have 2.5 trillion barrels in place in the four deposits in Alberta. Venezuela has 1.7 trillion barrels. This resource is so vast that if you're going to put money in . . . I look at your budget in terms of the amount going into lands and forests and the amount going to environment and the amount going to energy, and here is the biggest resource we have. If there's anywhere we should put some money in in a substantive way, it's this massive resource. We're always going to have to lower the costs, we're obviously going to have to increase productivity, and the technology changes all the time.

The most exciting technology that has hit us recently in terms of developing oil sands is horizontal drilling. You know, all of a sudden we're putting wells out in the United States a mile long. One horizontal well is replacing some 20 or 30 vertical wells. We're bringing in this technology and seeing how it applies to oil sands. Let me suggest that we don't develop all the new technologies. This underground mine facility – we went to Yarega in the Soviet Union to see what they were doing underground and then came back here and said, "Yes, we'll put the same thing here," and it's turned out to be remarkably successful. So this area of developing technology for oil sands development and oil sands operating . . . For example, we want to have an oil sands upgrading facility here in Alberta. We've had to go to Veba in Germany. We've gone all over the world to do our upgrading development. We should have been doing it here. And you know the reason . . . I'm sorry. I'm getting . . .

MR. TAYLOR: Hell, Bill, they need an education.

MR. CHAIRMAN: Supplementary.

MR. GESELL: I got some excellent information out of that response, but I didn't really get a complete answer to the question. I was looking for some new direction, whether there may be some additional capital expenditure in the foreseeable future that may require some heritage trust fund infusion. But I'll leave that; I'll pursue that separately.

Let me deal with my second question, Mr. Chairman. It relates to the mandate of AOSTRA. If I understand it correctly, and putting it simply again, I think it was there to develop technology for oil sands production and also to develop technology for the production of oil from shale. But there's a third mandate, and I want to concentrate on that one. It has to deal with cleaning up wastes, a sort of environmental maintenance type of operation. Now, in the booklet you've provided, Mr. Yurko, I think you indicate that the Taciuk process is utilized for that. Are there any other types of alternatives we are pursuing with respect to this environmental maintenance mandate AOSTRA has?

MR. YURKO: Well, let me say that one area we're looking at seriously is CO_2 release. We've put out, as you know, a document on CO_2 in Alberta, and I hope everybody's got this. We now have some 26 companies with us in doing a CO_2 study, not only in terms of where it's released in Alberta but how we might be able to utilize some of that CO_2. Now, we're utilizing very effectively Vikor and a few others for additional conventional oil recovery. Here we have a lot of conventional oil, but in some fields we've recovered only 20 percent and then had to shut the field down. In some fields we've recovered 25 percent, some 30 percent. There's a heck of a lot of oil there that can be recovered, and one way it can be recovered is with CO_2 injection. We've done three projects like this, all very successful. So we're looking at some 26 companies, all the big oil companies. We're doing a massive study in terms of CO_2 disposal, how we can use CO_2. Now, that's just one area.

Another area we're looking at, of course, is the sludge, how we handle sludge, for example. We're doing a major study on that environmentally. We're doing a major study on water recycling. Our Act says unequivocally that all technology we develop must be environmentally sound, environmentally acceptable; it says that right in our legislation. So we are increasing our allocation of money and allocation of efforts in this area of the environment in relation to the technologies out there and in relation to the new technologies we're developing.

MR. CHAIRMAN: Thank you.

Final supplementary.

MR. GESELL: Finally. Thank you, Mr. Chairman. On the ATP, the Taciuk process, you've indicated in your publication and in your overview that they're using it successfully in the United States to clean up some contaminated sites. There is the intention to also commercialize ATP for waste cleanup in Canada overall. I'm sort of looking at this and saying: do we have a problem in Alberta? Do we need to clean up our own house with some of these sites before we commercialize? What is the situation there?

3:42

MR. YURKO: Let me suggest to you that we have a lot of contaminated sites in Alberta, including Calgary and the Edmonton area, all through the north. There are tank bottoms. There are all sorts of heavy hydrocarbons that are being used. Some of them are being used for old pavement, and the Energy Resources Conservation Board is thinking seriously of putting a limitation on use in that regard. We have tested this AOSTRA process for

recovering hydrocarbons from organic wastes, from refinery bottoms, spills. We've tested it on rubber tires very successfully. We're starting to test it now with other organizations, including the ERCB, on selected municipal garbage. The process there for cleaning up organic wastes is very substantive.

We're building a 5 tonne an hour unit that we're going to demonstrate, but the problem with us is that we don't have a mandate as AOSTRA to go out there in the field and clean that site. We've given an exclusive agreement to UMATAC to take our technology and go out there and clean organic contaminated sites. It's UMATAC that's got into an agreement with another company in the United States, Soiltech, to build this unit we have that's cleaned up the site in Wide Beach, New York. AOSTRA as a research organization shouldn't be involved directly, but we're involved in doing research, and this research is just exploding on us. The requests from all over the world in terms of the possibility of using this AOSTRA/Taciuk processor for cleaning up sites in the Soviet Union, in Europe are just substantive. I almost don't have the manpower to handle all the requests. I need more money.

MR. CHAIRMAN: Thank you.

The Member for Three Hills, followed by the Member for Wainwright.

MRS. OSTERMAN: Thank you, Mr. Chairman, and good afternoon to the minister and Mr. Yurko and others attending this afternoon. I think all of us sitting here gain a sense of enthusiasm communicated especially by Mr. Yurko in his responsibilities, and for those of us who have some understanding now about what it is he speaks of, it's even more helpful.

One quick question to the minister first before I get directly into AOSTRA, and that is: with respect to OSLO, has there been a discussion about the types of processes being investigated in the engineering studies that are done? Is the work done by AOSTRA in processes used now being refined? Is that a part of the OSLO study?

MR. ORMAN: Mr. Chairman, first let me say that I noticed the hon. Member for Three Hills is not sitting with the others, and I'm wondering why she's over so far to the right.

MRS. OSTERMAN: I guess that's my chair in more ways than one.

MR. ORMAN: She's quite significantly over to the right even from the Member for Athabasca-Lac La Biche. I'm quite surprised to see that.

With regard to the OSLO project, the OSLO engineering study covers a number of areas, and the first is to try and bring the 4 and a half billion dollar project into scope, to find where its greatest efficiency is, the greatest scale-up and efficient use of capital, and determine also the upgrading component and how much that will cost. I should say that the upgrading aspect of OSLO is being conducted on a number of fronts. There were a number of competing interests that were doing experimentation and research on the upgrading portion of the OSLO project. Although it was not a significant part of the engineering, there were other studies going on to determine the extent to which the upgrading would contribute to the 4 and a half billion dollars. That research is really designed to improve upon the existing upgrading and release of the oil from the bitumen that is occurring today. The Syncrude process is a hot water extraction process. It has certain environmental implications. The cold water process that was being pursued improved on the environmental implications of oil sands development, as did some of the other research on upgrading. That, at this particular point, is somewhat academic unless the project does go ahead, but we have learned a great deal from our investment in the engineering study with regard to OSLO, and it will bode well for the future if this project or other projects do go ahead.

MRS. OSTERMAN: Thank you. To the minister, and it may be that Mr. Yurko is the one that would be answering my additional questions because they have to do with AOSTRA. Others have mentioned the chairman's comments about funding and the certainty of funding, and I'm sure the minister was thinking, "Wouldn't I love to have certainty of funding to handle my own department and so on, let alone the other responsibilities I have." I guess everybody is wrestling with that. It's not a comment on the importance of a particular entity like AOSTRA; it's a matter of balancing a lot of competing pressures.

I'm trying to get a handle on the commercialization of the various processes. As I read the booklet, it's exciting to learn that potentially there could be a process used on shale in Australia. I'm taking for granted that this means we sell our knowledge to the group that is going to investigate the Australian sort of situation. Without denigrating the abilities of all those involved with AOSTRA, would somebody enlighten me as to how on one hand you're looking and evaluating and having a sense of what research should be conducted and, on the other hand, the very pure business aspect of the operation – that is, the hard-nosed business of selling what it is you have to market – where you get expertise to do that, to understand the value of it.

MR. YURKO: Can I answer your question as briefly as I possibly can in connection with shales and the AOSTRA/Taciuk processor? There are always four stages to commercialization, and one is a demonstration stage. You can do the piloting, you can do the basic research work in the laboratory and so forth, but you have to have a demonstration phase. Southern Pacific Petroleum in Australia have tested their shale with us at the pilot facility in Calgary very successfully. We think they're going ahead; they might cut the ribbon in March or April or June next year, because Bechtel has designed the thing. They're designing a demonstration facility. It's going to produce around 6,000 barrels a day of oil out of shale. It's a demonstration facility. They're proving the technology. So we are joining together in terms of proving this technology for shale all over the world.

Now, as a result, we're not going to get very much from them except proof that their technology works remarkably well. When we license it beyond Southern Pacific Petroleum – and by the way, they're going to get their licence free of exclusivity within Australia – in the rest of the world, we will start to get a very substantive royalty. This is going to be in any agreement subsequently when the process is proven, but they have to prove the process. We anticipate that they will prove the process and it's going to be very effective. There are substantive deposits of shale throughout the world. The United States has some of the highest deposits, and they've been very unsuccessful in terms of their development and are looking to us. All of a sudden they're looking to us. If we can prove this in Australia through a demonstration facility, we'll have a technology we'll be able to sell worldwide and make some money from.

MRS. OSTERMAN: I only mentioned that as an example of what it is that potentially could be sold. My question dealt with the business part. In other words, who sits down and makes the

business decisions about what something will be sold for or handed over for for future considerations or whatever? How are those decisions made?

MR. YURKO: Well, if you look at our Act, these decisions are made by our board. Our board runs AOSTRA. Indeed, we make those decisions in terms of selling the technology, under what conditions, and so forth. Our agreements are substantive, and they're put together by our legal experts. We have agreements in all cases, and in terms of the recovery of our funding, it's all within the agreements. The agreements in many cases are public, and some of them could be released so you could see the nature of the types of agreements we structure.

3:52

MRS. OSTERMAN: So the board has the . . .

MR. CHAIRMAN: Your final supplementary.

MRS. OSTERMAN: Yes, I recognize that, Mr. Chairman.

So the board has the ultimate decision in consulting for information to take to the board. Does your group go outside to get business advice on these various things to come forward for a decision? Obviously, all of this is looking at your first concern, and that is how to get some certainty in funding. It appears that in the future there could be some certainty there by returns that are going to come.

MR. YURKO: Well, the board procedure is complex and varies. Oftentimes we have a company that wants to have AOSTRA associated in a project. The company comes before the board and makes an actual presentation, and sometimes it takes hours for them to make their presentation. We do this quite frequently. If there's any concern, the board will ask the company to come and make a presentation, and then they ask them all sorts of questions.

MRS. OSTERMAN: So there are no others providing a second opinion on what the company's observations are? That's my question.

MR. YURKO: No, we have committees. If we think we need a second opinion, we have a total review of what they've provided, and in fact we'll go out for a second, third, and fourth opinion in some cases.

MRS. OSTERMAN: Thank you, Mr. Chairman.

MR. CHAIRMAN: Thank you.

The Member for Wainwright.

MR. FISCHER: Thank you, Mr. Chairman. My question is concerning the Syncrude project. I'm sure we all know the value of the Syncrude operation in terms of jobs and spin-off to our economy. It costs about a billion dollars to get 62 million barrels of oil out, and that money, or most of it, does go directly into the economy of Alberta. In light of the fact that we do have $81 million invested in engineering studies toward the expansion of the Syncrude project and also the fact that OSLO has been cooled off quite a bit by the withdrawal of the feds, do you see the expansion of the Syncrude project moving ahead a little more quickly than it has?

MR. ORMAN: Mr. Chairman, the Member for Wainwright brings forward an important point, and it is somewhat related to the OSLO engineering studies. That is that in the past we made an investment along with Syncrude to look at ways in which we could expand the productive capacity of the Syncrude project. I have been told by the partners in OSLO, who essentially are the same as the partners in Syncrude, that in the event the OSLO project does not go ahead, they will then turn their priority to expanding the Syncrude project. There have been additional discussions by some of the OSLO/Syncrude partners on an upgrader, and whether that pre-empts their desire to expand the productive capacity of Syncrude I can't say. But I do know that these people, these companies, are very committed to oil sands development and one way or another will find a home for the dollars they had earmarked for OSLO in oil sands development in some other form.

MR. FISCHER: My second question is related to the money that was invested in the expansion studies. They have increased their production by roughly 10 percent since the studies were done. Do you know what the agreement was on when they start paying back? If they've started their expansion by about 10 percent, do we start getting paid back on our $81 million?

MR. ORMAN: My understanding, Mr. Chairman, is that a significant portion of our investment in engineering studies for the expansion of Syncrude will be returned to us by way of incremental production generated by the expansion. [interjection] Incremental barrels.

MR. FISCHER: Thank you.

MR. CHAIRMAN: Thank you.

We have two minutes before the time we normally conclude these meetings. We'll use that time to express appreciation to the minister and Mr. Yurko and government officials that have accompanied you today. We appreciate the information you've given to the committee, and I'm sure it will be beneficial to us as we consider recommendations we may see fit to put forward this year.

I'd entertain a motion for adjournment from the Member for Lloydminster. All in favour? Any opposed? Carried. We're adjourned until 10 o'clock tomorrow morning when we will have the hon. Premier appear before the committee. Tomorrow afternoon we'll have the Auditor General.

[The committee adjourned at 3:58 p.m.]