
CHARLES FISCHER, FORMER PRESIDENT & CEO OF NEXEN INC.

Date and place of birth: March 21, 1950. Saskatoon, Sask.

Date and place of interview: March 13, 2012 at Mr. Brennan's home, 2034 - 2nd Avenue NW, Calgary, Alberta

Name of interviewer: Brian Brennan

Name of videographer: Peter Tombrowski

Full names (spelled out) of all others present: N/A

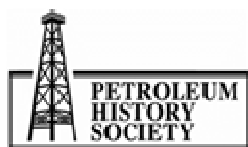
Consent form signed: Yes

Initials of Interviewer: BB

Last name of subject: FISCHER

BB: My name is Brian Brennan. Today, on Tuesday March the 13th, 2012, I am speaking with Mr. Charles W. Fischer for the Petroleum History Society Oil Sands Oil History Project. We are conducting this interview at my home, which is located at 2034 - 2nd Avenue NW in Calgary. Also with me today is Peter Tombrowski, who is recording this interview on video. Mr. Fischer is the former president and chief executive officer of Nexen Incorporated, and he later became a participant in the Clean Energy Dialogue between the governments of Canada and the United States. So, welcome and good morning. Let's start with you giving us a brief biography of yourself: Where you were born, where did you go to school, and so on.

FISCHER: I was born in Saskatoon, Saskatchewan. My family moved to Calgary when I was three, in 1953. And I went to school in Calgary, public school. And ultimately went to the University of Calgary. My first degree was chemical engineering and that played very well into work in the oil industry. While I was working I went back to school and did an MBA at night. I was doing capital budgeting, and I didn't understand all the principles, and I thought I might as well study and make sure I get it right. So I have an MBA. Both degrees are from the University of Calgary. The first one, 1971, was when I graduated from engineering, and 1982 was when I received my MBA. From a work perspective, living in Calgary, I had lots of opportunities for exposure. As a student, I had summer jobs related to installation of pipelines. I worked in an oil field. I worked in a gas field, and in a gas plant. I did seismic one summer. So I had a pretty good founding in operations. And I think



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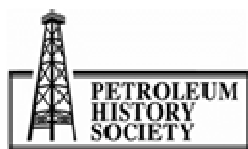
that helped me in good stead later on because I understood the issues that the people went through when they were in the field. I never did anything in drilling, so that was always some new experience as I went forward.

In my career, I started at Dome Petroleum and I left there relatively quickly. They wanted to move me to Sarnia and I had a significant relationship and decided I would stay in Calgary. After I left Dome, I spent a little bit of time developing drilling muds. So, as I said, I didn't have much to do with drilling. Never did spend any time on the rigs. But I did work on developing drilling muds. Then I went to work for Hudson Bay Oil and Gas.

I stayed at Hudson Bay Oil and Gas until Dome acquired it. I then spent a little bit of time at Sproule as a reservoir engineer. When I had been at Hudson Bay Oil and Gas I had met Gerry Maier. And Gerry, I would say, is one of my mentors over the years. Gerry had gone to Bow Valley Industries – working with Doc Seaman – and asked me to come and set up a planning department, which I did. And I progressed at Bow Valley and stayed there until British Gas acquired them. At which time I had a contract, and I told them they could either pay me to stay or pay me to go. But I was going to exercise the value of the contract. At the same time, Gerry Maier had previously left Bow Valley and I had been working with Doc and others. Gerry was at TransCanada Pipelines, and TransCanada owned an upstream oil and gas company, TCPL Resources. They had just acquired Encor Energy, which was the old Dome Canada, and were merging the two. And he asked me to go and join the upstream part of the business as the president. And I did that. I spent half a dozen years there.

The challenge at Encor was debt. When I joined TransCanada it was to run the upstream business and they were going to use funds from the pipeline to help build an upstream business. It really didn't make a lot of sense to do that because pipes trade on a different basis than oil and gas companies. So less than a year after I joined them, they decided they were going to spin the oil and gas company out through a plan of arrangement and we came public with eight times debt to cash flow. Today, people like to see debt to cash flow between one and two times, so we had our challenges. We operated that for another five years and then sold the company to Talisman. At that point, I didn't join Talisman. I took some time to decide what I was going to do.

Eventually, I joined Canadian Oxy, at the time running their North American operations. I had responsibilities for marketing and for I.T. worldwide. We went through a transaction where we acquired the shares that were held by Occidental Petroleum, I think in 1997-98 time frame, and changed the name to Nexen. I became chief operating officer and, in 2001, became the CEO. And Nexen was largely an oil producer with more production from outside of Canada than we did inside Canada. But we did have exposure to oil sands, so my oil sands exposure, very minimally in Hudson Bay Oil and Gas – they had a small interest in Syncrude. At Encor, we had an even smaller interest in Syncrude because we inherited our pro-rata share of that original interest that Hudson Bay had. And at Can Oxy they had an interest in Syncrude, and then we built a much larger business in the oil sands when I was at Nexen.



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BB: Going back a little bit, growing up in Calgary you probably heard about the oil sands early on. What was your understanding? What did you initially know about the oil sands?

FISCHER: Not that much. I mean, I guess it was Great Canadian Oil Sands that started and there was probably a lot of that going on when I was going to school, and even engineering school. And so I was aware that it was there. But I did not understand the intricacies of what they were doing, or the challenges of the technologies. And we didn't spend a lot of time studying that. We were much more focused on more traditional sources of crude and natural gas and how you would develop that. Syncrude didn't come into production, I think, until 1978, and I was out working at the time. And, again, huge resource base but very challenging operating conditions. I think for many, many years GCOS, and subsequently Syncrude, were challenged to be profitable. It wasn't really until commodity prices started to increase that those businesses became more and more interesting to many people.

BB: When did you become a little more personally involved in what was happening in the oil sands?

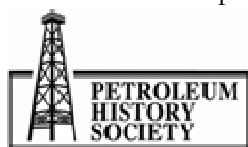
FISCHER: Through Hudson Bay Oil and Gas and through Encor I had exposure to it, in that we had an asset and I was aware that we had the asset. But it was a small enough piece that we didn't participate directly. We were really an investor. It was only after I joined Canadian Oxy – and one of the early responsibilities I had was to sit on the Syncrude management board as an owner, and start participating in their meetings – that I became more and more knowledgeable and more involved in oil sands and oil sands technology and the potential that oil sands held moving forward.

BB: When you were with Canadian Oxy, did you see the oil sands as having commercial viability?

FISCHER: Well, I did. At the point I was there, Eric Newell was the CEO of Syncrude and Jim Carter was there and all those folks I thought were doing a wonderful job. They had an interesting model. I joined Canadian Oxy in 1994 and I think in 1997-98 oil prices touched ten bucks. And, at ten bucks, oil sands didn't look very good. So, I had the exposure to a profitable entity when I first got there. We had a hard look at whether we could operate through the lower price mechanism and to try and determine whether we had to mothball the plant, what would that entail? If we did that, what would it take to be able to turn it around? Fortunately, prices didn't stay low for too long and we didn't have to mothball the plants. And then as prices started to come up, they rose rapidly to where – and the technologies were improving all of the time – it became apparent that relatively aggressive investment to increase volumes and develop the oil sands made a lot of sense.

BB: When you were senior vice president, exploration and production North America, for Nexen starting in 1994, you were responsible for, among other things, Nexen's oil interests in Alberta. What were some of those interests? And what were your responsibilities in terms of dealing with them?

FISCHER: Well, as it relates to oil sands, our interest in Syncrude was producing. We had a number of other leases that clearly contained oil sands, but they hadn't been developed. And probably about the time that oil prices were quite low, one of the fellows that was running the Canadian operation



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had come to me because he had a buyer. Somebody was looking at acquiring our oil sands interests, and it was for a relatively minor price. And I sent him back and I said, "Do some homework because it's either worth nothing or it's worth an awful lot." And until I can tell which of those two is true, we're going to keep the assets; because to sell them for a minor value didn't make any sense to me when you had all of those resources. Now the challenge for most oil and gas companies around the world is to build a resource base. And once you have a resource base it has always seemed to me that the technology would be developed to be able to exploit those resources and develop them into products and do that profitably. And that's certainly been the name of the game for the last, better part of fifteen years, I guess.

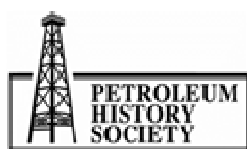
BB: What plans were in the works for Long Lake when Nexen and OPTI Canada first joined together in 2001 to develop a steam-assisted gravity draining project in that area?

FISCHER: Well you really have to go back a little bit before that and it's interesting. I spent a fair bit of time in not-for-profits. And there was a fellow in Calgary by the name of Jim Hume who was running a not-for-profit in Calgary, and it had strong relationships in Israel. And Ormat Industries in Israel had come up with a technology using pentanes where they were using a novel extraction process basically that they thought could be applied to oil sands. And we had people go over and look at that. We liked the technology but their process would upgrade bitumen that might be 8 API gravity to maybe 20 API gravity, and that didn't solve the problem. At 20 API, you still had limited markets, poor commodity prices. It was hard to justify spending the capital. And so we didn't do anything with them following that initial review.

Ormat ultimately created OPTI Canada and they did a joint venture and built a pilot at Long Lake in conjunction with Suncor. At the end of their pilot, Suncor had decided that they weren't interested in working with OPTI using that technology. They were committed to their coking upgrading that they had at their existing plant. They liked mining at that point better than they liked *in situ* and had decided that they wouldn't progress. And so, they and OPTI then were looking for somebody to buy into the Long Lake leases. And when we went through that process, we sat down with the folks at OPTI and said okay, here are the issues that we have. We like your technology but it doesn't go far enough. We have to be able to get beyond a 20 API product. We need get to a much lighter product that's low cetanes and has ready access in the market. And so their engineers and our engineers spent some time together with our marketing folks to make sure that we would come up with a set of technologies that would meet what we thought we needed on the way through. And we came up with those technologies. And once we did that, then we justified acquiring an interest in Long Lake and formed a joint venture with OPTI Canada, which led to the development of Long Lake.

BB: And then, along came Kyoto in 2002. What kind of impact did that have on the Long Lake project?

FISCHER: Well Kyoto didn't have that much of an impact; because typically when people upgrade bitumen they either do it by adding hydrogen or taking away carbon. So in a coker you're pulling



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carbon out, and if you have less carbon with the numbers of hydrogens that are there, you improve the quality of the oil. If you add hydrogen, you have the same impact. What we decided to do was a little of both. We were using a fractionator. Then we were taking the various heaviest ends – the asphaltenes – out of the bitumen and we were oxidizing them. Basically we were creating a synthetic gas that was carbon dioxide and hydrogen. And when you burn the carbon monoxide, it has about the same heating value as natural gas.

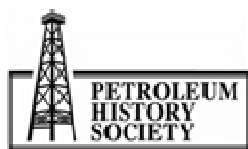
And so when Kyoto came up, one of the advantages of the technology that we were using was that instead of partially oxidizing those heavy ends, we could have fully oxidized those heavy ends and created a pure hydrogen strain, like a CO₂ strain. And then we could have captured that CO₂ under pressure for sequestration. And I still think, going forward, that might be done at some point. The other technologies didn't allow you to do that. With the other technologies you would be forced to capture CO₂ at atmospheric pressure after the whatever was burned – whether it was natural gas or whether it was a different fuel. And so, the technologies that we were using actually could be preferential in terms of dealing with carbon reduction at the site as we were upgrading.

BB: So at no point then, in your mind, did the prospect of Kyoto threaten to scuttle the project?

FISCHER: No, not at all. I always felt that we had chosen technologies that actually were compatible with what we might have to do in a carbon-constrained world. And we were a bit unique there. As we built Long Lake we had lots of naysayers who said the process wouldn't work. I think history would say that the process works reasonably well. The challenge that they've had is the reservoir hasn't performed as well as that they had hoped. I think that will all get resolved with time. And we had built a very large inventory of resource in the area, and some of it had far better reservoir criteria than the original Long Lake leases. So I think over time those problems will get solved in the same way that Syncrude and Suncor were able to resolve their early start-up problems with new technology. New technology takes some time to work the bugs out.

BB: Tell me how Long Lake has developed since that time.

FISCHER: Well, they take a long time to build, these plants do, and they cost billions of dollars. And we were like everybody else at the time, because there was a lot of construction. So our costs exceeded our expectations. And it took us a little longer to build the facilities than we had anticipated. The construction was completed in the fall of 2008. We had been running pilots continually in terms of injecting steam and trying to learn more about the reservoir. And when the commercial plant came on in the fall of 2008, we had a lot more steam capability and pushed steam into many more wells. Part of the issue with the reservoir is that there were, what we would've called "wet zones", where the water saturation would have been over 50 percent. And the problem when you're heating the reservoir and you hit a wet zone is that it steals your energy. And you have to vaporize that water before you can actually start getting the heat you want into the bitumen and get the bitumen to move. And so it's been dealing with those issues that have been a challenge. And I don't think that they've exceeded about half of their volumetric targets to date. The upgrading technology works and has been relatively reliable. I think they had some problems with valves and



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things early on when they brought it on. But the challenge has been the reservoir, and I think recently they've made decisions to bring bitumen from some adjacent reservoirs that don't have the same problem with the wet zones. And they will build their volumes that way.

BB: So oil sands development, like Rome, is not built in a day?

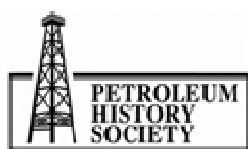
FISCHER: It is not built in a day. Syncrude started in '78 and, when I was there in the mid-90s, we were still learning a lot of things. You are moving huge amounts of material and the technologies just keep getting better as people understand the problems. They do research on how to mitigate those problems and they find solutions. And those solutions result in improved efficiencies, in reduced environmental footprint, and it's just step-by-step. You just keep challenging yourself and developing new ideas.

BB: Was there still a strong focus on research and development when you were involved with Syncrude, or was the company putting more emphasis on the commercial development of the oil sands?

FISCHER: Syncrude always maintained a research facility through the time that I was involved. As the advisory board, we would annually sit down and look at all the technologies that the folks were looking at. And we would debate the strengths and weaknesses of those because the owners were funding all of these technologies. I think one of the strengths of Syncrude was that it had multiple owners, and some of those owners had experience. Exxon, for instance, would have been doing its own research on a variety of things at the same time that Syncrude was doing research. So they would have strong views that they would bring to the table on how to solve those problems. But others did as well because of that mix of ownership. So there were times when having multiple owners, and having a requirement that you have unanimity on decisions, was a challenge in getting approvals to do things. In other ways, it was an advantage because you got the collective wisdom of all of those companies who had experience at a variety of things around the world. And my view was always that the benefits of the knowledge overcame the difficulties of unanimity on decision-making.

BB: What would you regard as the main achievements, or the highlights, of your involvement with the oil sands?

FISCHER: At Syncrude, during the time that I sat on the management committee, the views were changing dramatically. We went from a view of just trying to be profitable to really trying to accelerate growth. And spent a lot of time looking at what those staged growth steps would look like. I think that was a very interesting time. It was a little bit of ahead of when you had a whole raft of new players coming into the oil sands. We were acquiring leases. You could buy oil sands leases in those days for probably a quarter a cent a barrel for resources in place. You could only dream of that today. It's much more expensive to acquire those leases. And so we were building the resource base with the view that we would continue to build a business around oil sands.



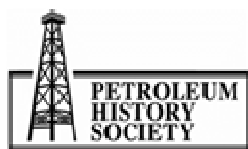
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At the same time, corporately, we had come to the decision that the oil sands resources that we already held, that weren't part of Syncrude, had real value. And so, at Nexen, we started looking at how we would develop those resources. That caused us to find Ormat and ultimately develop Long Lake. At the same time that we acquired Long Lake, we continued to look. And we acquired a pretty substantial resource base because we just kept building it with the view that oil sands had a very long-term prospective life. And over the life of that resource it would be a significant contributor for the company. So at Nexen the decision to stay involved in oil sands was under my watch and we built a very significant resource base. And we developed some of that resource using unique technologies, which is going through the normal start-up challenges. But I think in the long run it will create a significant amount of value for the company.

BB: So, I get a real sense of pioneering associated with the different aspects of oil sands development. It's like the process is still inventing itself as you go along?

FISCHER: I think that's true and I think it's going to continue to be true for some time. One of the challenges that I see in the industry today is you have got fairly rapid growth in the development of the oil sands, but by a number of participants typically using fairly similar technologies. Coking is probably the preference in terms of upgrading. But if you're going to coke, you have to know you have cheap natural gas. At the time we made our decision, our view was that natural gas was going to get to be a more and more expensive fuel, which it did. The breakthrough came with horizontal drilling and fracking technology that now has caused gas to be in very high supply at a very low price. Which plays towards coking, it helps you with that. But there are lots of issues. You've got public concerns about carbon emissions and people calling it dirty oil. You've got concerns on shipping bitumen and whether it's corrosive in the pipes and is more prone to leaks. You have all kinds of emotion around these things.

Certainly, from my perspective, the industry needs to collaborate and find new solutions to reduce its environmental footprint. They're doing that today on tailings ponds technology. Three years ago, when I retired from my regular job, they weren't collaborating nearly to the extent they are today. That was always one of my drivers when I sat with my colleagues: to say, nobody is going to get rich on tailings ponds why aren't we working on these things together? We all have the issue to deal with. And most recently, the industry has created an entity – the acronym is COSIA (Canadian Oil Sands Innovation Alliance) – where a dozen companies have signed agreements in terms of how they're going to collaborate to develop new technologies. And to work to resolve the challenges that people are concerned about in oil sands development. Those are really positive things. I still sit on two Alberta boards around technology; one of them is Alberta Innovates Energy and Environment Solutions and the other one is Climate Change and Emission Management Corporation. The two of them probably invest seventy-five million dollars on average, annually, in technology development. And some of that goes to support new technologies in oil sands, looking at improving energy efficiency, reducing environmental impacts, all of those sorts of things. For me those are all exciting opportunities because I think if we can define the problems that we're trying to solve, we can find a solution. I think it's when we don't define the problems properly, and we treat symptoms, that we just keep putting Band-Aids on. But, you need to get down to understanding the systemic issues and



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then dealing with those. From my perspective, in a world that uses 90 million barrels of oil a day, oil sands are going to have a long and prosperous future; because people need that energy particularly for transportation.

BB: You have mentioned a number of the challenges and the solutions that are being sought. Were there any crises that you had to deal with during the time that you were involved with the oil sands?

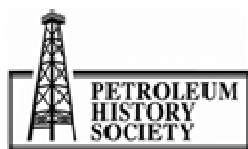
FISCHER: Probably we were fortunate in that we didn't, in the period that I was directly involved, have many of what you would call crises. A fire in an oil sands plant, in an upgrader, I would consider a crisis. Fortunately, we didn't have any major fires but we did have minor fires that we had to deal with. I think that Eric Newell and Jim Carter and their team did a marvelous job of running Syncrude, and building in that safety and awareness significantly reduced their exposure to those kinds of events. Probably one of the most frustrating issues we dealt with was ducks.

Syncrude had changed its operator to a contractor. They had engaged Imperial Oil to be the contract operator for the project. And, as they were going through the changeover, we had a very tough winter, and there was still ice in and around the tailings pond. And everything was frozen on the natural ponds but the migration came in. And, lo and behold, we had 1,600 ducks land on the tailings ponds. For me, that was a huge frustration because the migration is coming and if you can't get your deterrents out, the noisemakers and all of those sorts of things, you need to do something else. We could have hired folks from the region and had them with blank shotguns or whatever, or just making the noise when the birds are coming in to drive them off, and they didn't do that.

And then when the birds landed, instead of opening the doors and saying to the press and the public, "Yes, we've made a mistake, here is why we had the problem and here is the mistake we made. And here's what we're going to do to make sure it doesn't happen again," they wouldn't let them in. Which meant that the press were in helicopters and they were flying over the sites taking pictures of things they knew nothing about. And to this day, the issue of the ducks still haunts the oil sands. So I think that issue was very badly managed at the time. And as an owner in Syncrude at the time, I was quite vocal with some of my colleagues about what they were doing and differences of view; because my reaction was if you've made a mistake, admit you've made the mistake. Show people what happened, why it happened, and tell them what you're going to do so it doesn't happen again. And we didn't do that and the operator, in fact, even went to court to argue that the legislation on migration, or Migratory Bird Act or whatever it was, was set eighty or ninety years ago and it was wrong. Instead of saying we made a mistake I think we made a mistake.

BB: You mentioned some of the individuals that you encountered during the time you were involved with the oil sands. Maybe you can tell me just a little bit more about some of the key individuals who made an impact on you as you became involved with the oil sands?

FISCHER: Well clearly the folks at Syncrude were the people I had the most exposure to. I think Eric Newell and Jim Carter were instrumental in helping to develop the oil sands in the 90s, working through the Alberta Chamber of Resources. They were able to get the province and the federal



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government to the table to develop generic fiscal terms for oil sands. Until that time virtually every project would negotiate its own terms and that was difficult. But once the generic terms were set, and the world started to change, you saw very rapid interest by many people in the oil sands. Development in the oil sands and investment in the oil sands started to explode, and that's true today. Obviously Suncor was a major part of that as well. I think Rick George has played a very significant role, and really he sees Suncor as an oil sands company. That's all it was before Petro-Canada, and oil sands is still the centre of that company.

Dee Parkinson-Marcoux ran their plant for them some of the time that I was involved with Syncrude. But there are a whole great team around both of those organizations that really set the framework and did the groundwork for where oil sands are today. I think they did a wonderful job. In the business, some of the people who have that passion would be called "tar babies" and appropriately so. They had the vision to persist and solve the problems. When I look at Canada today, oil sands is probably our single most valuable resource, at least in the medium term.

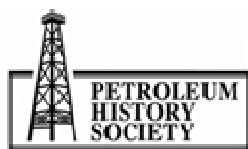
BB: And you're no longer involved with the oil sands?

FISCHER: I am and I'm not. I stay a little bit involved in the technology through Energy Environment Solutions and CCEMC, because we're always looking at new technologies and some of those technologies are directed towards oil sands.

BB: I have some general questions now about the role that government has played in oil sands development. Looking at both levels, provincial and federal, has government involvement been generally supportive, would you say?

FISCHER: It probably goes through cycles. Without government support early on you wouldn't have had any investment. The governments were there, and they were direct participants. So you'd have to follow the generic histories to find out when the governments were investing or supportive because they saw this as an opportunity for Canada. At other times, governments would take a different view and just try and figure out how much money they could take from the asset. When the governments were working with the industry to develop generic terms in the mid to late 90s, I think that was a hugely positive step. So governments didn't choose to participate directly with direct investment and ownership, but they created fiscal terms that supported third party investment in the oil sands. And when in Alberta we went through the royalty review that caused the conventional industry to slow down so much, the oil sands industry was successful in working with the government as they went through those royalty changes to make sure that, while the royalty structure changed, it didn't change in a way that would stall the industry. The government had enough understanding at the time that its decisions reflected enough flexibility that maintained the prospectivity and the economic potential of the oil sands, and people kept investing.

BB: So in terms of government involvement, you're saying it depends on whether you're looking at 1998 or 1968 – that it varies over time?



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FISCHER: Yes, governments have their own drivers. Alberta is an unusual place in that – particularly when we had high oil prices – you had people across the country who thought that Alberta would make enough money from the oil and gas sector so that personal income taxes would be eliminated. I don't think that's going to happen. But it's been a huge advantage for the province, and a huge source of revenue for the province, to have oil and gas successfully developed here in the province. You had the NEP in the early 80s, which was a disaster. But I think a lot of those jurisdictional issues are behind us. But we may see more of that. You're dealing today with Central Canada, which has real fiscal problems. Ontario has got some tough medicine that it's going to have to take, and it's typically been one of the stronger provinces in Canada.

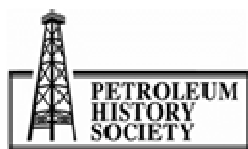
Today, the West is where more of the revenue is being generated and people in Central Canada – from what I hear – are interested in trying to identify ways of redistributing some of that wealth. So maybe some of the battles that Peter Lougheed and others fought years ago to really solidify the fact that the resources are provincial jurisdiction, who knows whether we're going to open those debates again? But money and greed go hand-in-hand. It wouldn't be impossible to see discussions on how you could move revenue from the West to the East to support what easterners have become accustomed to.

BB: Has regulation been effective do you think?

FISCHER: I think generally and I'm sure you would have environmentalists, some of the NGOs, who would probably argue that it wasn't as effective as it could be. But I think generally the regulations have been effective. I think they're very complicated today. Ten or fifteen years ago you could go through a regulatory process, and get approval for an oil sands project in about a year. Today that's probably three. And it's very complex in terms of the processes you go through, and the consultation that you need to do, and the engagement of the public. It just takes a lot of planning. And part of that is that you're dealing both with provincial issues and federal issues. And the levels of government need to find better ways to integrate their processes so that you can work through these issues. At the same time, I think the industry has to hold itself to account, and not everybody works to the same standard. That was always an issue that concerned me. I used to say to folks on some of those issues, "If we're not going to hold ourselves to account and to high standards then, for those of us that are investing to meet those higher standards, my reaction is: regulate." There is enough interface between the public on issues and the industry that either you come to some mutual agreement where you set high standards, or you do need to regulate. And that's just the reality.

BB: You mentioned that you are still keeping an eye on the progress of research and development in the oil sands. Are there different directions that science and technology should have taken along the way, or perhaps should be taking in the future?

FISCHER: I'm not sure I'm smart enough on my own to answer that question, specifically. But I do think you need to have collections of people – and not only technical experts – sit down and define what problems we need to solve. A problem I might think we need to solve technically might not be



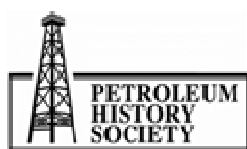
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the priority for an NGO. So I think you do need to have these broader public debates so that we understand and agree on what the priorities ought to be. And then we ought to invest in technologies that will help solve those problems. If you look at efficiencies, most of these plants were improving at one to two percent per year. So they were always investing in new technologies that allowed them to do things better. You're seeing the collaborations now on tailings ponds. But you're seeing the companies, through COSIA, sharing their technology as they improve recovery factors, reduce emissions, use less water; all of these sorts of things. And I think that's a huge step in the right direction. I think the industry needs to be more open in engaging with the public. And I think we would learn from those dialogues.

BB: You mentioned the ducks and the public relations disaster around that. And we know about the critics: they tend to get heard. But how has the media coverage generally affected oil sands development? From your perspective, has the media coverage been fair?

FISCHER: I have my own biases, I guess, on media. And I think oftentimes the media look for the sensational. The sensational is obvious, or is oftentimes about things that didn't work as opposed to things that did work. And I think the competition in the media world, the inability to spend as much time as you might to understand an issue, is a deterrent for the media. So I think they haven't been helpful in describing the oil industry, or the oil sands industry, in a balanced way. I think it has been tainted somewhat just by public noise. But some of that you have to put back on the industry. I think the industry generally felt for decades, in fact probably for most its life up until recent times, that if you could provide products to customers on a seamless basis and were always there at low cost, that people would leave you alone. And for a long time that was true. I mean, gasoline today is still cheaper in most cases than water. And it's a lot tougher to find and move than water would be. But industry had kept its head down and not described what it was doing, or how it was affecting people. And so the only time that there was a discussion in public was when people didn't want something, and there was an intervention, trying to stop something. So the industry should have been much more proactive, years and years ago, in describing what it did, how it did it, and what the benefits were for people. And get people understanding some of those issues so that you could have a legitimate debate. Where we are today, I don't think that we will have a legitimate debate until we have shortages. And it's not impossible that we would have shortages when you look at the uncertainty of the world today. But if the issue was oil from the oil sands to provide gasoline, diesel and jet that we all use in our daily lives, and not having that – having to queue up and pay very high prices – I think most people would say, "Just a minute, maybe we ought to have another discussion."

I think today, when people think about oil sands, they assume that you could eliminate oil sands supply and it would have no impact on security of supply or on price. And that's not true. But until you actually see the rocks at the bottom of the cliff, you might not understand the dynamic of the choices that you're being asked to make. And if the industry gets too strident in the way that it would describe the consequences of some of these things, they would just be taken to task as being fearmongers. And again, we suffer that problem because we haven't built up that trust over the years, because we haven't been engaged in dialogue. So it's going to take some time to work through



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those issues in my mind. But it's something the industry is now doing. And it'll probably take some crises to get some meetings of the mind around all of these choices.

I also think the industry has to be more transparent in describing where they have problems. If you say we don't have any problems – and most people will look at tailings ponds and say they're a problem – then they're not going to believe anything else that they hear from the industry. So it's an evolution. The industry needs to improve its transparency and engage the public in different ways. I think it needs to change its behaviours in some ways, as well, so that you can build that trust with the public that you're actually aware of their issues, and you're taking concrete steps to try and solve them. I think those things go a long way. I don't think that the industry is very good at that yet.

BB: Is the industry moving in that direction?

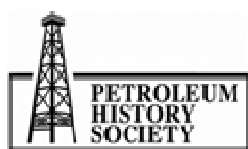
FISCHER: I think it's moving in that direction. But I'm not sure it's moving cohesively in that direction. You're going to have leaders who believe that the companies and the sector have to move that way. You've got others who just say, well, we shouldn't have to do this. And I think time will show that everybody has to do that. And we have to engage the public in the same way that we engage government, or we engage customers, or whatever it happens to be. I think the public has a role to play.

BB: What could the media be doing in terms of saying some of the positive things that are happening in the industry?

FISCHER: I think the media's challenge is that they're selling time, they're selling papers, and they're selling whatever. And the sensational sells, the mundane doesn't. A story that talks about new technology for the oil sands probably doesn't sell papers. But they need to be more balanced, and they need to be more knowledgeable and informed when they write their articles, as opposed to just sensationalizing whatever the short-term issue is. And I don't think many of them understand it. Oftentimes, the media people are busy, filling a 15-second clip or doing an article, and they've got a few hours to put it together, and they don't have time to do background. So you pretty much have to spoon-feed them.

So the sector has to come together and say, okay how do we provide data in ways that are easily accessible and easily understood and transparent so that it's not a question of it being managed and spun? And over time, you build that knowledge and you get better balance and coverage. If that doesn't happen, then it's always going to be sensational. It's going to be ducks landing on a pond, or a spill, or whatever it happens to be. And because that's the focus, it's on the excitement. It's not on the old mundane stuff that allows us to drive to the service station and fill up our car when we need gas, and do it relatively cheaply.

BB: I have one more question for you. Is there anything that we've missed? Something else we should mention?



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FISCHER: The only other thing I would like to say about the oil sands is that it's still in its infancy. You're talking here about a resource with a recognized resource base of about one hundred and seventy-five billion barrels, and that will grow with time. And so we're just skimming the tip of the iceberg in terms of the opportunity that the asset provides. And it generates economic benefits for the entire country and beyond. And rather than vilifying this asset, we need to figure out how to exploit that asset in the best way possible for the benefit of all Canadians and beyond, as opposed to trying to sterilize it and saying it's just bad, and that we should just leave it alone. I don't believe that for a minute, because we haven't solved the problems of how we'd replace the products that we generate from oil sands. And maybe thirty, forty, fifty years from now we do have those technologies, and we're managing that in different ways. But, again, that's where I think the media has not done a good job of looking at the comparisons.

I will give you an example there. In Ontario, with power generation, you've got base load power at maybe five, six cents a kilowatt-hour. If you go to renewables – and (Premier Dalton) McGuinty's been pushing renewables – wind for commercial generators probably gets twelve to fourteen cents a kilowatt hour on long-term contracts. Solar gets, for commercial projects, forty-two to forty-three cents per kilowatt-hour. And small solar generation farmers, and people putting it on their houses, are getting seventy and eighty cents per kilowatt-hour. Well, if most people knew that their power bills were going to double and triple as we moved to new technologies, they wouldn't be very happy about that. Because you go from spending seven percent of your average income to spending fifteen or twenty percent, just on energy. In terms of transportation, yes, there are hybrids and there are electric cars that are coming out. But they haven't solved the problem of range and reliability and batteries, and all of these sorts of things. We're trading one set of problems for another set of problems. And we don't have the solutions yet. So we're going to have these products: oil going to gasoline, diesel and jet for a long time. And we need to find better ways to do that while we're developing new technologies that can replace the ones that we have today. But that's going to take a long time. And there is no silver bullet, and the new technologies are all a lot more expensive than the old technologies. And I don't think people, by and large, understand that.

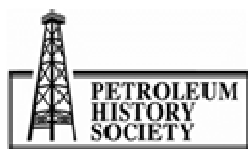
BB: So there are some good-news stories still to be written.

FISCHER: I think there are many good-news stories yet to be written, and I think oil sands are going to become even more important in Canada and in the Canadian economy than they have been to date. I think it's a huge resource that will benefit the country immensely, managed properly.

BB: Thank you for your time Mr. Fischer, I appreciate that.

FISCHER: Thank you very much.

END OF INTERVIEW



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