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Moderator: Thomas Polich, Consultant in Solar Development

(Thomas Polich): Thank you very much Sandy. I thank everyone and welcome. My name is (Thomas Polich). I would like to welcome you to the Association of Corporate Counsel webcast for this afternoon on the Canadian electricity markets. It's presented by the American Association of Corporate Counsel Energy Committee whose sponsor is (Blake, Cassels & Graydon, LLP).

We have today two gentlemen who will help us go through this very complicated and very fascinating matter. I would like to have few housekeeping items first.

The presentation is about 60 minutes long. At any time during the presentation questions can be submitted using the box in the bottom corner of your screen. Please remember to fill out an evaluation at the end. I will remind you again at the end of the presentation to please complete the evaluation.

I'd like now to introduce our speakers today. We have first; we have Mr. (Robert Power) from the Toronto and Calgary offices of (Blake, Cassels & Graydon). Mr. (Powers) is the co-chair of the firm's national energy group. And also manages a significant infrastructure practice. In 2005 he was acknowledged as one of four lawyers in Canada recognized for their electricity expertise. And has been a repeated been a lecturer and publisher in Canadian and U.S. publications. Welcome Mr. (Powers).

(Robert Power): Thank you.

(Thomas Polich): I would like to introduce Mr. (Sterling G. Koch). Mr. (Cooke) is the director and general counsel, regulatory and legal affairs at (Transalta) Corporation in Calgary, Alberta, Canada. (Transalta) for those of you who are not familiar with the company is one of Canada's largest power producers with power plants in Canada, the United States, Mexico, and Australia.

Mr. (Cooke)'s expertise and work is in commercial marketing and trading businesses in Canada and the United States. And he provides counsel to the corporation on mergers and acquisitions, independent power project development, treasury, credit, sustainable development, and general corporate and commercial matters. And welcome, Mr. (Cooke).

(Sterling G. Koch): Thank you, (Tom).

(Thomas Polich): For those of you that are interested there is more information on Mr. (Powers) and Mr. (Cooke). Their bios appear in the links box, the box on the side of your screen. So with that I will ask Mr. (Powers) to start his presentation. Thank you for joining us.

(Robert Power): Great. Thank you, (Tom) for that introduction. Today, (Sterling) and I will be taking you through a review of the Canadian legal and regulatory structure for electricity markets. We're then going to focus on the two principle markets in Canada; Alberta because it's the most evolved and Ontario because it's the largest. And then explain the market dynamics which are driving trading and generation investment in those two jurisdictions.

On the – sorry one page back, (Sterling). Just as an overview of Canada, you can see that we've provided a map with the Canadian provinces on the top and the reliability regions in the United States on the bottom.

Canada is made up of 10 provinces or states. There's also three territories which comprise the far north of Canada up to the Arctic Circle. However, it's fair to say that most of the population of Canada lives within about 200 miles of the border of the U.S. and this is where most of the economic activity is. Although generation and transmission is spread around the country.

Total population of Canada is about 34 to 35 million.

Now this slide gives you some sense of the connectivity between Canada and the U.S., through the provinces as well as between the provinces. It's fairly well integrated north, south. It's not as strongly integrated east, west which reflects the strong economic ties and the location of the population to the U.S. border.

From left to right on BC which one of the largest interconnects to the U.S., that's principally driven by cheap hydro, large dam barriers. And in the middle, Manitoba, same thing very large dam barriers. And then on the sort of towards the far right Quebec also has a strong amount of export arising from large hydro electric dam barriers. The rest of them are a mix of electricity based upon fossil fuels, some hydroelectric in varying amounts.

Moving on to the legislative framework for electricity in Canada, there is two principle levels and then we move to the municipal level. The first principle level is the regulation and regulators at the federal government level. The principle regulator is the National Energy Board which governs the construction and operation of international transmission lines, electricity exports to the United States, and gas imports and exports.

Specific nuclear, we have the Canadian Nuclear Safety Commission which governs almost everything to do with nuclear in Canada.

And Environment Canada when one thinks of building facilities. Environment Canada has a range of responsibilities for projects that relate to Federal authority, but the environmental issues are shared with the provinces which we will touch on in a moment.

An additional thought which (Tom) had that we should share with you is that first nations are aboriginal affairs are an issue across Canada and they vary depending upon where one is in Canada. To the east of Canada most of the first nation issues, not all, but most of them

settled out through treaties over the years. But as you move to the west the treaty negotiations for various reasons were not completed. And as a result if one is building facilities in Canada there is a myriad of first nation's issues. And one of the most important one is that our supreme court has determined that the federal government has a duty to consult and to consult early where there is an impact on a potential aboriginal claim. What this means in affect is that if you're developing in Canada, the developer in effect has to take the front end of the negotiations if the project developer is wise to get that going.

(Sterling), maybe I can turn this over to you to explain a bit more about the import regulations.

(Sterling G. Koch): Sure, (Rob). Thanks. As (Rob) mentioned the regulation of electricity in Canada is a little different than in the U.S. The (fereks) in the U.S. experience is a much more powerful regulator than the National Energy Board is in Canada. And that's largely due to constitutional and practical reasons. There's not a lot of interconnectivity between the provinces in Canada.

The NEB itself actually regulates electricity exports. And for anybody wanting to export power from Canada, they need to have an electricity export permit. The National Energy Board Act states that nobody shall export any electricity except in accordance with the permit or license issued by the Board. Generally speaking, the NEB doesn't regulate imports of electricity. An export permit will be granted to generally if it's provided that the power has been offered within Canada on similar terms and conditions and it won't affect reliability.

It's a similar analog to the U.S. Department of Energy regulating exports from the U.S. And an electricity export authorization permit generally will be granted by the DOE if sufficient generating resources exists in the region and it won't create any reliability issues.

I'd also just mention in brief as well that short term gas imported and export authorizations are also regulated by the NEB similarly to the U.S. DOE regulation of import and export of gas under blanket authorizations.

Just in terms of some of the provincial regulation across the provinces, Rob's mentioned that most electricity is regulated at the provincial level. And environmental matters are in general are regulated at this level as well, although in strong coordination with the federal environmental regulators.

In terms of policy development and regulation and administration, those are specific to each province, but generally each province has a ministry of energy or a department of energy, some form of independent regulatory tribunal or quasi-judicial tribunal and an independent system operator that regulates, or that insures reliability and operates the transmission system.

The independent regulatory tribunals are generally responsible for regulation of rates, cost of service filings, terrific conditions, et cetera.

So just moving to Alberta, which is the province where (Transalta) has a very large position. The population of Alberta just for context is about 3.5 million people. So by comparison to

most states it's not very populous. However, the Gross Domestic Product of Alberta is about \$210 billion, U.S. Canada's oil reserves are second only to Saudi Arabia. And Alberta is the largest producer of conventional crude oil, synthetic crude, natural gas, and gas products in Canada.

Alberta is the second largest exporter of natural gas and the fourth largest producer. Two of the largest producers of petrochemicals in North America are also located in central and northern Alberta.

Probably the biggest story and the largest driver of the economy in Alberta right now is the (Asarco Oil Sands), also sometimes known in the U.S. experiences as tar sands. They have estimated non-conventional oil reserves of approximately 1.6 trillion barrels. Just for context that is equal to the conventional, to the known conventional reserves of the rest of the world combined. So needless to say it's a very significant resource in Alberta. And you can see on the map, the gray areas on map are the locations of the oil sands within Alberta, mostly in the northern part of the province away from any of the majority of the population.

In terms of the Alberta electricity market in general, Alberta is the only province with a fully competitive wholesale and retail market for electricity. The electrical industry was restructured during the mid '90s. The Electric Utilities Act was developed which opened the market to unregulated generation. So new plants will require approval from the regulator for siting only but not for their costs. So all revenues or all prices are unregulated for generation.

The ((inaudible)) monopolies, the transmission and distribution lines remain regulated by the Alberta Electric Utilities Board, or EUB.

Prices essentially as I mentioned are set by the market and wholesale and commercial customers can purchase from the real time spot market or be a contract in the bilateral markets. Residential customers have an option to either take regulated rate or to opt for the competitive market.

To just give an overview of bit of the supply mixes in Alberta. We're predominately a thermal market which is dominated by coal. We have a tremendous coal reserves within Alberta. Over a hundred years of coal reserves at current load levels. Most of that is located in the north which is fairly remote from the actual load centers. So transmission is very important in Alberta. We have very little hydro capacity. And natural gas, as far as generation as you can see from the chart on the right is generally on the margin.

So peak demand in the province is about 10,000 megawatts and average demand is about 8,000 currently. So natural gas is generally the fuel type that's setting price in the province.

In terms of just the description of the players, the various players that own generation in Alberta. I've put together a bit of chart here just to give you an idea of the different ownership percentages. And a note that the ownership is ownership of dispatch versus ownership of generation capacity. And a little bit of a description of that is when Alberta deregulated there were essentially three incumbent vertically integrated utilities, (Transalta), (Atco), and (Epcor). And rather than force physical divestiture to avoid market power problems in a deregulated market, the government essentially virtually divested the control of

that generation through what were known as power purchase arrangements. And those power purchase arrangements essentially provide or sold dispatch control in exchange for capacity payment to the owners of the generation.

So for example, (Transalta), my corporation, owns and operates nearly 50 percent of the generation capacity in the province. But over 30 percent is offered in and dispatched by other parties through a PPA. So we continue to operate the facility but somebody else has dispatch and offer control over those megawatts.

Also of interest is the balancing pool which owns about 7 percent of the dispatch ownership in the province. The balancing pool is a governmental agency that holds unsold power purchase arrangement capacity. So it currently holds two units, (Genicie 1 & 2) about 700 megawatts in total that it will be auctioning off in the near term. Those power purchase arrangements weren't sold in the original auction when the market deregulated.

(Enmax) and (Epcore) are also, just of note, are municipally owned generation, (Epcore) being the city of Edmonton and (Enmax) being the city of Calgary owned.

In terms of generation, Alberta's historical generation growth post deregulation in 1999, there was a very large build of additional generation capacity in the provinces. And often many would argue that it was an overbuild. We brought on 4,000 megawatts of new generation capacity in under 7 years. Given that the size of the market was under 7,000 megawatts, that's a tremendous amount of new capacity. That excess has begun to be worked off by load growth and retirement. And more additional generation is being planned for the northern oil sands region and in the northern coal based regions in the Edmonton area.

There's also a significant amount of wind build, wind turbines being put in the southern and southeastern and southwestern parts of Alberta along the Montana border. There's roughly 2,000 megawatts of wind in the queue waiting to come on. There's some transmission issues that are preventing some of that new wind from coming on but that's in the process of being addressed as we speak.

The growing demand for power in Alberta probably can't be overstated. The pace of the economy here is being driven by the oil sands and by oil and gas revenues. For context there was 7,200 megawatts of peak demand in 1995 and that's grown to over 10,000 megawatts in 2006. That's nearly 400 megawatts every year for 10 years.

By contrast to the U.S., we're probably growing at about of five times the load growth experienced in the U.S.

While the load growth in Alberta is predominately industrial driven by oil and gas activity, there is also a significant increase in residential and commercial load growth in southern Alberta. That's again being driven a large degree by the industrial load, but there's a net migration of people to Alberta every year. Housing, just for contrast, housing prices have tripled in the last 7 years. Temporary work camps and workers are being flown in from China, Japan, and other regions to work and ((inaudible)) oil sands in the north.

Demand generally is strong in Alberta as I've mentioned but it's driven largely the economic growth of oil and gas revenues. However, it's important to note that it's very chunky load growth. It's not a steady climb. When these projects come on they tend to be very large. And the oil sands load is often coincident with its own power supply. So a load may come on a 600 megawatt load might come on, but it will generally be coming on with its own power supply in the form of cogent.

So in terms of future development, gas prices are obviously going to play an important role as the power or the price of gas and the price of power in Alberta are highly correlated. Gas prices as gas prices climb, coal, wind, and biomass become more attractive. Conversely as gas prices fall, those other forms of generation become less attractive.

So the bottom line is that – here that (AOC) prices effect the future load and supply in Alberta.

And just in terms of – this slide's a little difficult to see. So along the left hand axis there it essentially says generation or demand. The top line is required generation. The bottom black line is the projected load. And the purple line is the net generation, actual net generation including announced retirements and additions.

This graphic really just shows the supply cushion, or reserve margin in Alberta out over time. The bottom axis is just by year starting in 1999 and going to 2015. So as you can see from the chart, essentially by 2010 Alberta is going to require at least 2,000 megawatts of new generation. That's in addition to those already announced and that have applied for interconnection. By 2014 we're going to require another 4,000 megawatts. So it's pretty staggering amount of generation capacity that needs to be added in a fairly short time frame.

One of the wild cards for generation development in Alberta is transmission. Like most other jurisdictions in North America there has been a chronic under investment in transmission infrastructure in Alberta. We tend to be very poorly interconnected as well with our neighbors. The major (intraties) with British Columbia to our west. And that is a 1,200 megawatt export and with a 1,000 megawatt import line. That is due to transmission constraints within Alberta that's administratively limited to about 600 megawatts of import and zero megawatts of exports in peak periods. New merchant interconnections are being proposed and in development, however they're slow coming on. Probably the one that's closest to fruition is the (Matal) or Montana Alberta Transmission line which a 300 megawatt line proposed between Alberta and Montana.

Transmission upgrades are disparately needed to allow new generation to come on and to results in an unconstrained system.

Just a couple of graphics in terms of the net – Alberta is a net importer on an annual basis. And we're adjacent to British Columbia which is a low cost hydro market to our west. And so exports generally occur only during dry seasons or in order to capture local time differences or daily peak periods and before British Columbia is due. And so there's a bit of an arbitrage in terms of time there.

Just switching to the Alberta wholesale market for electricity as well – as I mentioned the market opened in '96 and full deregulation occurred in '99. The market itself is

administered by the Alberta Electric System operation which is an independent system operator which has over 200 participants. And then include generators, wholesalers, retailers, and large customers.

So in terms of setting the pool price, the power pool itself is a single price ascending auction design. So essentially, every supplier will offer their volume at a power price during the day. And the (ISO-rank) goes from highest to lowest until the volume required to meet demand is reached. So in other words, in the example shown on your right, if the load was 300 megawatts, A, B, and C would be dispatched. The clearing price or pool price would be set at \$60 and each of A, B, and C would receive \$60. Generated D would not receive any payment as they would be out of merit.

It's important to keep in mind in the deregulated market obviously that the price being offered is not costs, it's the price that the supplier thinks the market will bear and the risks they're willing to take of not being dispatched.

The Alberta Electric System operator itself is a not for profit entity. It's free of any industry affiliations and it owns no transmission or market assets. It's truly independent. It's responsible for operating the grid and reliability. It's also responsible for providing open access to transmission. The other major mandate of the (ISO) is for operating the competitive wholesale market and to manage its relationships with both Saskatchewan and British Columbia, its neighbors.

In terms of becoming a participant of the power pool or the (ISO), essentially it just requires completing a participant application form and signing an agreement to abide by the independent system operator's rules or (ISO) rules. The annual participant's fees are small, \$150. And there's also another \$100 fee for getting a digital certificate to access the energy trading system. There's also a prudential requirement so parties wishing to participate will have to post credit support. There's a nominal trading charge as well that's levied on a per megawatt basis annually.

Just a bit of an overview of the regulators in Alberta. There's the (ISO) as I mentioned which is the Independent System Operator. There's also a market surveillance administrator which – and the analog in the U.S. would be a market monitoring unit within a state and to a lesser degree (ferks) office of market oversight and investigations. They're essentially responsible; they're the beat cop responsible sure that the market and conduct in that market is appropriate and within the rules.

The Alberta Electric Utilities Board is the judicial or quasi-judicial tribunal that handles regulated matters and deals with generation and transmission sighting issues and approvals. Alberta environment is the provincial environmental regulatory that works with the federal environment regulator in Canada. And the last by not least, the Department of Energy is responsible for policy direction of the industry as a whole and it's responsible as well for all of the forgoing regulators.

Now with that I will turn it over to (Rob) and he will talk a little bit about Ontario.

(Robert Power): Great, thank you (Sterling).

(Tom Polich): Hey, (Rob) ...

(Robert Power): ... yes...

(Tom Pollack): ... just before we go on, let me just ask the attendees to hold any questions and you can put your questions into the box. And we'll answer all questions as we come to the end of the presentation just in case we have covered the question during the body of the presentation. Thanks, (Rob), go ahead.

(Robert Power): OK, thank you (Tom).

Just by way of introduction to the market in Ontario, many of the regulatory features that exist in Alberta are adopted in similar ways in Ontario. And what I will underscore is some of the differences in the regulatory regime and some of the market demands that occur in Ontario.

(Sterling) pointed out that Alberta has got a population about 3.5 million. Ontario has 12.6. Alberta has a GDP of 210 billion and Ontario has a GDP of about 500 billion. So you can see the economic activity is not at the same level in Alberta but it is a much bigger population. It is also a very broad based large manufacturing and service sector. Geographically it's larger than France and Spain combined, so transmission is also very important in Ontario. And it's viewed as part of the Great Lakes region. In one day you can drive from Toronto to New York and then much of the business is connected around those Great Lakes.

A little different than Alberta is the nature of the demand in Ontario, the large industrial which is characterized as 5 megawatts or more demand, is about 20 percent of the provincial load. The commercial and small industrial is about 37 of the load. What we characterize of municipalities, universities, schools, and hospitals, is 8 percent of the load, with residential at 35 percent of the load. So you've got a very broad base of load in terms of the users principally in the southern half of the province.

Now when we come to how the Ontario market is structured it is different than Alberta in a couple of ways. By way of background, in 1998 the restructuring process began with the passage of what is the Energy Competition Act – and really it was two Acts which were attached to it, the Electricity Act of 1998 and the Ontario Energy Board Act of 1998. The Electricity Act being the principle legislation which sets out the regulatory framework. And we initially tried to go for the big bang in Ontario of full deregulation. It quite simply was not political acceptable following on the heels of Eron, California, supply shortages, high prices, very hot summer. So it was backed off and Ontario has adopted what is called the hybrid model where the state generating company owned by the state, Ontario Power Generation, or OPG, it's output from its base load assets is regulated and the price is regulated to provide a low cost default supply price to residences and small business while operating in conjunction with open access a wholesale and retail market as you'd know it across other jurisdictions.

So we have a regulated entity providing a regulated price and to most of the residential level with a very fluid wholesale market operating in conjunction with it.

Seventy percent of the generation is still owned by Ontario Power Generation. It was almost effectively 100 percent up until 1998. So decontrol has progressed although not as far as many would want. And the balance of the generation has principally but not exclusively developed under long term contracts with the Province of Ontario or the agencies. The wires are regulated. There's little private ownership. They're state owned and similar to Alberta we have an (ISO) which administered the provinces transmission system and market.

Now a bit more on the regulatory structure and who's who in regulation. There's a Ministry of Energy with a legislative responsibility very focused on policy, pricing, and regulation broadly. The Ontario Energy Board which is the quasi-judicial tribunal which regulates electricity, and natural gas; licenses the agencies and that participants and it monitors the markets. We have the (ISO) as I referred to earlier which manages the market structure and rules and directs the transmission grid operations and acts as the settlement agent for trades in the market.

We have something that is somewhat unique in Ontario called the Ontario Power Authority. It was created post the withdrawal from a full market in 2002 to act as a credit worthy counter party which would contract for generation where market fundamentals would not incent the private sector to take that sort of risk. As a result all new generation has been contracted through the OK for the last several few years and it's expected that for the next several years, 20, 30 plus contracts will be let by the OK until there's a stronger market foundation for investment.

Hydro one is the provincially owned transmission monopoly provider. And Ontario Power Generation as I referred to is the state owned generator with the majority of the assets.

Just a brief overview about transmission in Ontario. Relative to the size of the demand some would say the interconnection capacity is relatively small at 4,000 megawatts. There is another project under construction to connect Quebec to Ontario at about 1,250 megawatts. There's an import, export, approximately 8,000 gigawatts each way. The provincial transmission is old though. Generation is often distance from load and in the old Ontario Hydro vertically integrated monopoly world the approach was to build very large generating stations, very remote from load. So we have coal fired stations of 4,200 megawatts far away from load. And we have nuclear plants of as much as 7,000 megawatts, quite far away from load. As a result the direction now towards locating smaller plants. Small is relative in Ontario. 500 to 1,000 megawatt gas fired plants nearer to the load and developing distributed generation in the municipal areas. So there's quite a renaissance in terms of the approach to generation in Ontario and where they'll be located. And there are major transmission reinforcement projects that are planned to occur over the next several years to support this generation growth.

On the next page is a very important insight into Ontario where it is now and where it intends to be in approximately 20 years. Most of the generation fleet in Ontario is extremely old. And other than the hydroelectric essentially has to be rebuilt or replaced. And most of it is going to have be replaced.

If you look at the center column for 2008 I put down the terawatts/megawatt capacity of where Ontario is now. And if you look at the far right column you'll see what is the 20 year

transmission and supply plan that's being reviewed by the Interior Energy Board right now. This is a major building program. It's expected to be well in excess 60 billion that has to be invested over the next tens or so.

You can see that the government, if you look at the different types of supply and they've characterized conservation as equivalent to supply, they expect a dramatic uptick from four to 31 in terms of conservation capability to meet the supply. I have to tell you most people think that is unlikely to be attained. Prices are quite low in Ontario. Conservation doesn't attend to occur unless there's high prices.

In the renewables you'll see there's quite a dramatic jump as well. And this is driven by the government's commitment to (Quidal) to reduce green house emissions. There's a view that this is quite aggressive as well. On nuclear the thought is to increase it somewhat, but the hidden story there is most of that nuclear is going to have to be new build. And there's a real question whether new build can be built in that sort of time frame to meet those objectives. There's also arisen questions around risks. Questions around price and whether it's socially desirable to have that much nuclear. And that's a debate very much alive in Ontario right now. My personal view is some will get built but we don't know how much.

Gas, as you can see there's planned to now quite double and many people in the market would suggest that if conservation and renewables and/or nuclear can't be met in time, gas will absolutely have to be the infilling of supply. And most people expect that you would see that number going up over time.

The next one is coal. Coal is presently is just under 20 percent of system supply in Ontario and the government's policy is have all that closed by approximately 2014 which is a very dramatic change to the system supply. Again a number of people feel it's not possible. This is the government's response again to green house gas commitments and health and environment. There's a big question mark on that one.

And ultimately where we expect Ontario to move is from a system of very, a very old system of 30,000, three 1,000 megawatts of capacity to a relatively new clean functioning, 39,000 megawatts of capacity within 20 years.

Now looking at generation and the relationship to trading; Ontario is somewhat different because of this hybrid model as well.

Most of the none Ontario power generation supply which about 30 percent of the supply in the overall market is on these long term, and I will call them capacity contracts, although they're not characterized like that. And under those contracts which are with the Interior Power Authority for the most part, the power is sold through the spot market on an hourly basis. So not that – very little of it is trade forward is the important point there. So what does that leave us for trading in terms of supply from generation Ontario.

The non-regulated Ontario power generation assets which is the coal and the mostly northern run of the river hydroelectric is about 22 percent of the market or about 6,800 megawatts which does trade forward. And there are some merchant plants which is about 15

percent of the supply which is about 3,700 megawatts of trading. That's mostly nuclear and hydroelectric. And the import which I referred to earlier for potentially 4,000 megawatts.

So you can get some sense of what's trading there from those three sources.

The Ontario Power Authority which has responsibility for market evolution is of the view that this can be grown. So it has initiated several market evolution programs to incent the long term trading and market based investing for generation development. And these are similar to a number of initiatives which are occurring in different regions in the United States. Power options have started as of last year for up to five term products, one, two, three, four, five.

Load serving entities are being examined right now which would essentially be a financial entities which are created to engage in long term power procurement to meet the default supply customer obligations. And thereby free up some of that regulated Ontario Power Generation where the price is regulated and create more market liquidity.

And then finally the OPA is looking at the existing capacity contracts and evolving them whereby the generators will have an underpinning of a financial 20 year contract but would be incented to participate in the forward markets in a way that would not penalize them and presumably also not penalize the rate payers which is one of the balancing issues.

So the development of the market continues in Ontario.

In short where we are now in terms of markets – there is the three which the (ISO) has the responsibility for. There's the real time or the spot market which is based upon five minute price signals to create an hourly energy price; there's the transmission rate market for transmission rates associated with the transactions between essentially the power and the Province of Ontario that the (ISO) regulates and the adjoining markets in the United States, Manitoba, and Quebec; auctions for transmission rights occur on a monthly basis and there's an additional sort registration process for that; there is a day ahead market that's under development; there's sort of an intern ((inaudible)) that does exist called the day ahead commitment process which provides some advance notice of prices, but a full day ahead market does not exist as yet.

Most of the trading occurs on the over the counter market. And there's a variety of contracts that are utilized which I'll touch on in a moment. And the power auctions which I mentioned just a few minutes ago for the short, intermediate, and long term contracts.

In terms of Ontario market participation – fairly straight forward, very similar to Alberta. There is an Ontario Energy Board license required for the wholesale trading. There is the (ISO) membership and credit evaluation similar to what (Sterling) outlined for Alberta. If the intent is to export power to the U.S. then there is a National Energy Board permitting process. And I might add that a number of these take a considerable amount of time in months. The OEB license and the National Energy Board in particular where there is public notice. The (ISO) membership is fairly straight forward and it follows on the heels of the OEB license. But there are a number of months to get through these processes.

And most of the trading is financial in Ontario. Very little physical. Usually is the base for the large sophisticated players or a variety of other proprietary contracts which also exist in the market.

In terms of an overview of where the market is now, there are over 300 market participants on supply side, wholesale side. It's north of 12 billion in annual energy transactions. The retail market, as prices have started to creep up on the forward curve is growing. Prices will move up significantly as the cost of new supply comes on line. They're expected to move up perhaps as much as 30, 40 percent in the next few years which would drive more retail, which would drive more wholesale and presumably more generation investment on the merchant side. And there have been a number of wholesale, retail, entrance in the last 18 months in anticipation of this market continuing to grow.

And that's our comments on Ontario wholesale market. We'd just like to thank you briefly and we'll take any questions I believe.

(Tom Pollack): Thank you gentlemen. This is (Tom Pollack) again. Appreciate all of the effort put into this. And while we wait for some of our questions, let me just take moment to introduce myself which I forgot to do. I was key LO legal officer and secretary to the Board of a NASDAQ company that worked in the (fin film) solar and renewable energy sector. And before that was corporate counsel of a company that merged with Pioneer Natural Resources in 2004 which was Natural Gas Exploration Production and Transmission and Shipping. We had operations both in Calgary and in the (Raton) Basin, that's Colorado. So with that, I did have one question for (Sterling).

(Sterling) can you hear me all right?

(Sterling G. Koch): Yes, I can.

(Tom Pollack): Very good. The question I had was that – the comment you made about 200 megawatts of wind still being in the queue and that there was some delay in association with that.

Could you explain what is the cause of the delay? Is it first nation's issues, environmental issues, transmission upgrades? Or is it legislative that's going on in Alberta with the introduction of the new utilities commission there?

(Sterling G. Koch): Sure, I can speak to that. It's probably a little bit of all. But the 2,000 megawatts of wind have all applied for interconnection. So they're currently in the queue as I mentioned as they don't sufficient transmission capacity to bring them on right now. That is has been the (ISO) or (ASO) has attempted to address that by additional transmission upgrades in the southwest and in the north-south, the main north-south trunk of the transmission system. Those transmission upgrades were recently sent back. The process is that the (ISO) has to apply – there's a need application. And then there's a facility application before the Electric Utilities Board. And the Electric Utilities Board essentially sends them back to some apprehension of bias on the part of the Board. So those two proceedings were sent back essentially to the starting line. There was an incident with some private investigators at some of the public consultation meetings regarding the line. So that whole process has been delayed and the (ISO) has to reapply essentially to get that transmission built.

So the North-South line – most of the congestion occurs on the North-South basis in Alberta as most of the generation is in North and most of the load is in the South. And in order to bring those new wind facilities on, they are going to need to upgrade the North-South part of the system as well as reinforce the southwest part of the system where the majority of the wind is located.

(Tom Pollack): These issues, are they intra-provincial or are they in charge of the Province of Alberta?

(Sterling G. Koch): They are intra-provincial. So they're strictly within the Province of Alberta, the issues.

(Tom Pollack): And is the Canadian market suffer from any transmission delays associated with inter provincial transportation and transmission issues?

(Sterling G. Koch): Well, yes if there were any desire to build any. There, due to the sort of relatively, there's relatively small interconnections between the provinces as we mentioned. And there's been some discussion about an East-West grid. But that – but due this relatively small population throughout the middle part of Canada, it's very difficult to make it work just due to the vast geographic area that's covered. So most of the interconnections tend to be North-South, not East-West with the exception of Alberta and British Columbia as those are really two complimentary systems. Alberta being a thermal system and British Columbia being a hydro system. So those two provinces lean on each other a fair amount. And we might see some additional transmission capacity or inter tie capacity built there. And I'd just add as well, when the North-South transmission upgrade occurs in Alberta, it's solves many of the many of congestion issues that currently administratively limit the transfer capacity between BC and Alberta. So it'll get back up to design capacity.

(Tom Pollack): Thank you very much for those answers. While we're waiting for any other questions to come in, and I think the co-leaders and leaders can see these questions if they do come in. Robert can you tell me, how complicated is the participant acceptance process? You had noted that a number of new participant market players have come in. Is that a long process? The people in audience that might be interested in joining that. And could you walk us through that a little bit.

(Robert Power): Sure. Market registration in both Alberta and Ontario is relatively straight forward. I think most people are more concerned with how long it takes. Ontario for example, you have to get your OEB license first before you become a market participant. That – there's a fairly close review by board staff as to who it is that's coming into the market. Are they creditable? Have they had investigations or charges relating to their operations in other parts of the world? So there's that sort of character and credit worthy sort character sort screen. And a publication around that. But it's relatively straight forward. Normally does not result in a hearing.

And then you're eligible for the (ISO) registration. That's the credit worthy screen more than anything. And whether – if you're just a wholesale participant, it's fairly straight forward. If you're building a generator then there's a number of questions around the proper connection with system and the series of questions on that. But I have to say, (Tom), I think

for the most part it's relatively straight forward and understandable. It's just dotting the i's and crossing the t's and you can get into either market on a non-discriminatory basis quite easy.

Sterling is that fair to say for Alberta as well?

(Sterling G. Koch): Yes, it's pretty similar process. It's more administrative in nature. There's some background checks for the directors and officers to insure that they – bankruptcy and any types of ((inaudible)) behavior in other markets. But other than that it's largely administrative in nature.

(Tom Pollack): All right thank you very much. Let's see; I do not see any questions. And (Sterling) do you or Robert see questions coming up on your screen at this time.

(Sterling G. Koch): No.

(Tom Pollack): OK, we'll wait just few more minutes while I just wrap up with a bit of the procedural matters. Again we appreciate every one's participation. Thank you very much (Sterling) and (Robert) for this presentation. And of course if there are any additional questions you can reach either of our two lecturers through their profiles or their bios or through the ACC if you wish to do that as well.

Again I do want to thank everybody for joining us today. And to a reminder that there are evaluation forms; these are very helpful for the ACC and for the folks at (Blokes) and us was well to be sure that we are providing the best service we can to our in house members at the ACC.

If you have any additional issues or questions that you would like to submit for the energy committee for upcoming articles in the docket, or articles that might be for programs or webcast material you may do so to the ACC energy committee and we'd be happy to look at those. And of course we're always interested in seeing what contributions that both our members and non-members might be interested in talking about.

So with that I don't see any more questions at this point. So what we will do this point is thank you all very much. (Sterling) and Robert thank you very much. And you may now disconnect.

(Sterling G. Koch): Thank you.

(Robert Power): Thank you.

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