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Finding the Money: Securing Capital for Energy Innovation

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FINDING THE MONEY: SECURING CAPITAL FOR ENERGY INNOVATION

*Session Chair - Selma Lussenburg
Canadian Speaker - Michael Barrett
United States Speaker - Paul Durbin*

INTRODUCTION

Selma Lussenburg

MS. LUSSENBURG: First of all, I would like to thank you for being here on a Saturday morning, and we know we are the last panel before the ultimate panel and the conclusion of this Conference, and we thought that what we would do is, we would take a slightly different format for the discussion today. Rather than having PowerPoint slides and someone standing at the podium giving a presentation, we thought it might be better to have a dialogue here and talk about some of the issues in the area of financing, renewable energy, and clean technology.

I am Selma Lussenburg.¹ To my left, is Michael Barrett.² Michael is a partner at Bennett Jones³ law firm in Toronto. He specializes in private corporate transactions and energy development. He has a renewable power development practice and he has worked on a large number of renewable power projects. He is very familiar with the Canadian landscape on renewable power. To my right is Paul Durbin.⁴ He is Senior Counsel with the law firm of Miller Canfield.⁵ Interestingly, he seems to commute between Chicago and New York—not exactly a suburb—and he is also involved in financing capital projects, and he ventures in the renewable energy sector. He does a lot of public and private project finance work, and

¹ *Selma Lussenburg—Biography*, ONT. CAP. GROWTH CORP., <http://www.ocgc.gov.on.ca/site/about-us/board-of-directors> (last visited Nov. 4, 2011).

² *Michael R. Barrett—Biography*, BENNETT JONES, <http://www.bennettjones.com/BarrettMichael> (last visited Nov. 4, 2011).

³ BENNETT JONES, <http://www.bennettjones.ca/About> (last visited Nov. 4, 2011).

⁴ *Paul D. Durbin—Biography*, MILLER CANFIELD, <http://www.millercanfield.com/PaulDurbin> (last visited Nov. 4, 2011).

⁵ MILLER CANFIELD, <http://www.millercanfield.com/firm.html> (last visited Nov. 4, 2011).

he has worked on a significant number of renewable energy projects throughout the United States.

I was also going to say a little something about the Ontario Capital Growth Corporation,⁶ where I serve as chair of the organization. A number of people have asked what it does and it is relevant to what we are discussing today, which is providing financing, but it is very much niche financing. It is an Ontario deposit agency. It has a fund to funds. It has two million dollars and it partners with people like the Toronto Dominion Bank,⁷ Manulife Financial,⁸ and large public pension plans to put money into a fund.⁹ That fund, in turn, invests in clean technology, renewable energy, and tries to build out the Ontario footprint, if you will, in terms of the economy.¹⁰

The organization has a second initiative, which is called the Ontario Emerging Technologies Fund.¹¹ We have \$205 million and, in essence, what we provide is venture or seed capital to companies which are supporting innovation or have new innovative technologies in certain defined sectors of the Ontario economy.¹²

Again, these sectors are clean technology, digital media, and certain health technologies, and we provide the financing. We follow the market. We have a concept where we only co-invest with other private sector or venture capitalists, and we allow them to, in fact, validate the market or the opportunity, and then we follow along.

And if anyone has clients that are looking for funding in those sectors, please feel free to speak to me or contact me sometime by e-mail. I would be happy to put you in touch with the right people.

Our topic today is financing. I am going to ask each of our speakers to discuss the primary sources of investment capital for renewable energy, projects in their respective countries, and what the funding sources are for renewable power projects and for clean technology companies.

So perhaps I will start this time with Michael and then I will pass it over to Paul.

⁶ ONT. CAP. GROWTH CORP., <http://www.ocgc.gov.on.ca/site/about-us> (last visited Nov. 4, 2011).

⁷ TORONTO DOMINION BANK, http://www.tdbank.com/aboutus/about_us.html (last visited Nov. 4, 2011).

⁸ MANULIFE FIN., https://hermes.manulife.com/Canada/wmHomepagesPub.nsf/public/strength_about (last visited Nov. 4, 2011).

⁹ See *Ontario Venture Capital Fund*, ONT. CAP. GROWTH CORP., <http://www.ocgc.gov.on.ca/site/funds/ontario-venture-capital-fund> (last visited Nov. 4, 2011).

¹⁰ See *id.*

¹¹ See *Ontario Emerging Technologies Fund*, ONT. CAP. GROWTH CORP., <http://www.ocgc.gov.on.ca/site/funds/ontario-emerging-technologies-fund> (last visited Nov. 4, 2011).

¹² See *id.*

PANELIST DIALOGUE

*Selma Lussenburg
Michael Barrett
Paul Durbin*

MR. BARRETT: Thank you, Selma. Good morning, everybody.

On the renewable power side for funding purposes, you have a pretty traditional model where companies look to get twenty percent of their capital source through the equity markets and roughly eighty percent of their capital source through the debt markets.¹³

On the equity side, the sources there tend to be either strategic or financial players. On the strategic side, a lot of the power utilities themselves are becoming quite active in the renewable space for lots of reasons.¹⁴ They see the returns. They also see the profile of those types of projects help in terms of the overall company profile. There is a very active set of equity investors in Canada.¹⁵

On the financial side, the federal government has set up through the tax structure a flow-through share model, which allows for high net worth individuals and institutions to invest through a corporation, giving them limited liability but allowing for certain types of expenses to flow directly back up to the investor.¹⁶ So for certain financial types, it is a very attractive model.

On the debt side, notwithstanding the fact that the Schedule I Canadian banks are very healthy and have been the source of a lot of backslapping and praise in Canada in the last few years, particularly coming out of the recent economic troubles, they are not that involved in renewable financing in Canada. They do a little bit, but they are just not used to the model yet. Most of the debt financing in Canada is European Union¹⁷ (“EU”) sourced

¹³ See SOPHIE JUSTICE, U.N. ENV’T PROGRAMME, PRIVATE FINANCING OF RENEWABLE ENERGY: A GUIDE FOR POLICYMAKERS 25 (2009), available at http://sefi.unep.org/fileadmin/media/sefi/docs/publications/Finance_guide_FINAL-.pdf.

¹⁴ See generally *id.*

¹⁵ See generally *Equity Investments, Canada Business Network*, GOV’T OF CAN., <http://www.canadabusiness.ca/eng/guide/1141> (last visited Nov. 4, 2011) (listing various equity investors in Canada).

¹⁶ See, e.g., *Building Long Term Sustainability for Canadian Biotech: Flow-Through Shares*, BIOTECANADA, <http://www.biotech.ca/uploads/pdf/flow-through%20shares%20-%20issue%20brief.pdf> (last visited Nov. 4, 2011).

¹⁷ EUR. UNION, http://europa.eu/about-eu/basic-information/index_en.htm (last visited Nov. 4, 2011).

mostly because they are just used to doing it. The EU practiced in this market for a number of years, understands the risk profile of the projects, and tends to be the predominant source of the projects in Canada.¹⁸

The other significant source are the life insurance companies (“LIFCO”) and some pension plans, and it makes sense to them in the sense that projects, and I am sure it is the same in Canada, tend to get twenty year power purchase agreements. So when you have a locked-in top revenue line for twenty years, that type of a project model fits very nicely with the LIFCO return investment that they are looking for. So they tend to also be fairly active participants in this space.

MS. LUSSENBURG: Paul, would you like to comment?

MR. DURBIN: We are primarily involved in solar and wind projects. One of the reasons I am in New York is that New Jersey is a hot bed now for solar development. I think there are eight thousand projects, that includes residential, but there is a lot of commercial development there.¹⁹ These projects are heavily structured deals and project finance oriented.

Like Michael mentioned it is eighty-twenty. This typically is what you will see between debt and equity, but in the United States it is a little different. There is an investment tax credit here, the Section 1603 cash grant,²⁰ that can be taken instead of the tax credit, so the need for a tax investor is less urgent until the end of this year. Then you are going to have to find tax investors for these projects. The ones that we see are, again as Michael mentioned, utility driven projects fully owned by a utility.

They take advantage of the cash grant. They enter into long-term power purchase agreement (“PPA”). Typically, these are projects under two megawatts, but they do quite a few of them. We also have projects that are leveraged, and financing is pretty available now if you have a strong PPA with creditworthy off paper.

We have seen projects from Morgan Stanley²¹ and J.P. Morgan.²² We hear the Bank of China²³ is going to be active in the United States on these

¹⁸ See, e.g., *Financing Renewable Energy: Accelerating Ontario’s Green Energy Industry*, MARS, 10, http://www.marsdd.com/dmsassets/reports/financing_renewable_energy.pdf (last visited Nov. 4, 2011) (noting European banks are extremely active outside of Europe, participating in and leading renewable asset financing syndicates for projects in the United States and Canada, and other developed and developing nations).

¹⁹ See generally *Installation Summary by Technology*, N.J.’S CLEAN ENERGY PROGRAM, <http://www.njcleanenergy.com/renewable-energy/project-activity-reports/installation-summary-technology/installation-summary-technology> (last visited Nov. 4, 2011) (outlining the many projects in New Jersey).

²⁰ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 1603, 123 Stat. 115 (codified as amended in scattered sections of Title 26 of the United States Code).

²¹ MORGAN STANLEY, <http://www.morganstanley.com/about/company/history.html> (last visited Nov. 4, 2011).

²² J.P. MORGAN, <http://www.jpmorgan.com/pages/jpmorgan/about> (last visited Nov. 4,

projects, and European banks as well, because it all began in Spain and Germany. Initially, that is where the wind and solar development was strong in the early 2000s, and now it is continuing in the financial institutions with the deals.

MS. LUSSENBURG: I am sorry. Maybe it is my ignorance, but you keep on talking about a PPA. Maybe I am the only one who does not know what that is.

MR. DURBIN: Sorry for that. PPA is a “Power Purchase Agreement.” Essentially, it is a twenty year contract to buy all the power from a solar array.²⁴ These arrays tend to be sited on roof tops, land base, or, less commonly in New Jersey where I am pretty active, in California, but they are mostly land based facilities. The PPAs are with utilities.

In California, as opposed to New Jersey, the state has a feed-in tariff, and we will get into this a little bit later. In New Jersey, the state uses a solar renewable energy credit to finance, in part, these projects.²⁵

MS. LUSSENBURG: I heard you comment a bit about China being a potential investor, but Michael has observed it seems to be largely Europeans that are coming into the Ontario and Canadian market. So is that the same comment, or is there more money, I will call it United States capital, which is being invested in this sector at the moment?

MR. DURBIN: Right now we see on the debt side and on the equity side, it is domestic. The Bank of China, the transaction I was thinking of, tends to work with Chinese companies that are building projects outside of China, so you may see them in the United States in years to come.

The European financial institutions are a little bit more active now. We are seeing them on solar projects. There are a lot of European developers that now have operations in the United States, and a lot of the manufacturers of renewable energy equipment from Europe and from Asia are building facilities in the United States.²⁶ As that occurs, you see their financial institutions migrating with them to finance these projects.

2011).

²³ BANK OF CHINA, <http://www.boc.cn/en/aboutboc> (last visited Nov. 4, 2011).

²⁴ See *Solar Power Purchase Agreements*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/greenpower/buygp/solarpower.htm> (last visited Nov. 4, 2011).

²⁵ See generally *About NJCEP*, N.J.’S CLEAN ENERGY PROGRAM, <http://www.njcleanenergy.com/main/about-njcep/about-njcep> (last visited Nov. 4, 2011) (noting the NJCEP offers financial incentives, programs, and services for residential, commercial, and municipal customers).

²⁶ See generally *International Investment Flows Into Surging U.S. Renewable Energy Market*, ELECTRIC, LIGHT & POWER, <http://www.elp.com/index/display/article-display/336320/articles/electric-light-power/volume-86/issue-4/features/industry-news/international-investment-flows-into-surging-us-renewable-energy-market.html> (last visited Nov. 4, 2011) (discussing European and Asian entry into the United States market).

MS. LUSSENBURG: You were talking about financial institutions. You were talking about private equity, so it is sort of an interesting dichotomy that we do not have the financial institutions in the market in Canada, and yet, we have the financial institutions in the market in the United States, like a foreign financial institution, whereas we have got private equity in Canada. It would be interesting to know what causes that, whether it is risk or government policy. We will get to that.

MR. DURBIN: I will just mention in the United States you see private equity as well. So there are several different private equity firms that are very active in investing in renewable energy projects.²⁷

MS. LUSSENBURG: So maybe we should talk a little bit about the different incentives and legislative frameworks in the two countries, and rather than have Michael start off, I am going to have Paul start off this time, and then Michael can feed in.

MR. DURBIN: There are many federal and state programs that make developing renewable energy projects possible. Without state support, you are not going to have much development. You need both levels working in unison.

Certain states that are very progressive on renewable energy policies will have kind of a thriving market for renewable energy development. New Jersey obviously does not have great solar. The solar is where you would expect it to be, but the legislature about five years ago decided to push forward with this policy, and it has really paid dividends in terms of developing these projects and increasing their supply of primarily solar power, but now they are pursuing a little bit of offshore wind.²⁸

So on the federal level, you have the investment tax credit that I mentioned.

On the wind side, the wind belt can opt for either the investment tax credit, which is now the thirty percent grant, or in other words the thirty percent cost of the facility that they basically get in cash from the United States Treasury after the placed-in service date.²⁹ There is bonus depreciation,³⁰ which is a major factor. It is through the end of this year one hundred percent cost of the project. So that is a major incentive for investing in these projects and owning them.

²⁷ See generally JUSTICE, *supra* note 13.

²⁸ See generally *Offshore Wind*, N.J.'S CLEAN ENERGY PROGRAM, <http://www.njcleanenergy.com/renewable-energy/technologies/wind/shore-wind> (last visited Nov. 4, 2011) (providing updates on the NJCEP off shore wind program).

²⁹ See *Business Energy Investment Tax Credit*, U.S. DEP'T ENERGY, <http://energy.gov/savings/business-energy-investment-tax-credit-itc> (last visited Nov. 4, 2011).

³⁰ See *id.*

On the state level, there are two different structures that I mentioned. One of these structures is the feed-in tariff,³¹ which basically means the utilities are mandated to buy power from renewable energy facilities at a certain price. The price is subject to adjustments. In California, this works very well.³² There is a lot of development there.

Then you have the solar renewable energy credit,³³ such as in New Jersey and elsewhere. In Ohio, I had been working on a project over the last year that is still in place. It is a forty-nine megawatt project south of here in the wild, which is a wild game preserve. American Electric Power³⁴ is behind this. They are buying the power. It is being developed by an outfit out of California. I believe the private equity firm involved in that project is Good Energies,³⁵ but they are utilizing all the federal and state renewable energy policies they can and all the programs they can to make it happen.

In addition to the tax programs of solar renewable energy structure you have in certain states, you also have financing available at the federal level through the Department of Energy.³⁶ That has not been utilized that frequently, but it is something that is used on large projects. We have seen it used on concentrated solar, but it is not used quite as often on photovoltaics.³⁷

MS. LUSSENBURG: Michael?

MR. BARRETT: So the first thing to say about the various manners in which renewable power is developed in Canada is that for legal jurisdictional purposes the federal government really has no role in Canada in setting targets, if you will, for renewable power.³⁸

So there is no equivalent to renewable portfolio standards in Canada, either at the provincial or at the federal level. The manner in which the

³¹ See generally WILSON RICKERSON ET AL., FEED IN TARIFFS AND RENEWABLE ENERGY IN THE USA – A POLICY UPDATE (2008), available at <http://archives.eesi.org/files/Feed-in%20Tariffs%20and%20Renewable%20Energy%20in%20the%20USA%20-%20a%20Policy%20Update.pdf> (providing comprehensive feed-in tariff programs at the state and federal levels).

³² *Id.* at 4-5.

³³ *Id.* at 9-10.

³⁴ AM. ELECTRIC POWER, <http://www.aep.com/about> (last visited Nov. 4, 2011).

³⁵ GOOD ENERGIES, <http://www.goodenergies.com> (last visited Nov. 4, 2011).

³⁶ U.S. DEP'T ENERGY, <http://energy.gov> (last visited Nov. 4, 2011).

³⁷ See generally *Solar Funding in the Federal Budget*, SOLAR ENERGY INDUS. ASS'N, http://www.seia.org/cs/solar_policies/solar_funding_in_the_federal_budget (last visited Jan. 19, 2012); see also *Financial Opportunities*, U.S. DEP'T OF ENERGY, <http://www1.eere.energy.gov/solar/sunshot/financial.html> (last modified Jan. 19, 2012).

³⁸ See generally David Wagman, *Canadian Renewable Energy Market Overview*, RENEWABLE ENERGY WORLD.COM (Apr. 19, 2011), <http://www.renewableenergyworld.com/rea/news/article/2011/04/canada-market-overview-o-canada> (discussing how Canadian renewable energy targets are met at the provincial rather than federal level).

various provinces come at it are in three ways. There are two provinces, British Columbia and Ontario, that have feed-in tariff programs,³⁹ and I think we all sort of understand how those work.

Many provinces, in fact most of the provinces, operate under competitive bid processes so they do not set the price at all.⁴⁰ The provinces just put out a call for power and invite the development community to come to them as long as the community meets certain basic qualification criteria and then submit bids for twenty year contracts.

The one market in Canada that is a little bit different was in Alberta. Alberta is a merchant market for electricity.⁴¹ So it is a spot market. You pulled your wind farm, and you sell your electrons into the grid at what the price is on that day. It can be a very profitable market. The pricing tends to be quite good.

The challenge in that market, though, is because you do not have the benefit of a long-term supply contract, it makes the financing of those contracts a challenge.⁴² You can go out and find a merchant in the middle that will give you a five, ten-year supply contract, and take a little bit of a slice on the way through on the spot market. Notwithstanding the challenges, Alberta has the best wind resource in the country by far.⁴³ Alberta has struggled to get a significant number of wind megawatts on because, unless someone can balance sheet finance it themselves, it is a tough market to build in.

So, it is really kind of a patchwork. Ontario gets all the press because of the feed-in tariff and particularly for the magnitude of the pricing that is available for certain fuel types there. But it certainly is not the predominant mechanism that is used across the country.

MS. LUSSENBURG: As I hear both of you talk about various government incentives, both tax breaks and then other funding, here is my question: are they mutually exclusive? Sometimes you find government programs and tax incentives where you can only take advantage of one. You

³⁹ See generally *What is the Feed-in Tariff Program?*, ONT. POWER AUTH., <http://fit.powerauthority.on.ca/what-feed-tariff-program> (last visited Nov. 6, 2011).

⁴⁰ See, e.g., *Competitive Bidding*, N.S. DEP'T ENERGY, <http://nsrenewables.ca/competitive-bidding/renewable-electricity-administrator> (last visited Nov. 5, 2011).

⁴¹ See *Alberta's Energy Market*, ALTA. UTIL. COMM'N, <http://www.auc.ab.ca/market-oversight/albertas-energy-market/Pages/default.aspx> (last visited Nov. 5, 2011). See generally Jared Brenner & Isaac Deutsch, *The Development of the Merchant Power Market in Alberta*, 6 J. STRUCTURED FIN. 41 (2000) (providing a history of the merchant market in Alberta).

⁴² See Marc Coward, *Creating Canada's Next Renewable Energy Shark?*, RENEWABLE ENERGY WORLD.COM (July 6, 2011), <http://www.renewableenergyworld.com/rea/news/print/article/2011/07/creating-canadas-next-renewable-energy-shark>.

⁴³ See *id.*

cannot take advantage of both, or if you get a grant or a loan at a certain point, the government or the funding agency says you have already gotten money from “ABC,” from here, or you already have this tax provision, and therefore, you cannot get that other one.

Can you comment on that at all, whether people should be on the lookout for that, and if so, why would you pick one versus the other? What is good about it? They did not know this question was coming.

MR. BARRETT: On the technical side, most of the purchasers of power under the provincial programs, of course, are the provincial utilities.⁴⁴ In their contracts, almost unanimously it will say, if you are receiving any other sources of government funding, you need to disclose those, and those get netted out of your revenue for the electron. So you are not going to double dip in that sense if you found another source of power or another source of funding.

The other way that that gets played out a little bit is, in the United States, renewable power projects have a second stream of revenue for recs or carbon credits that come out of those projects. That gets built into the financing model given to the lending community.

In Canada, with a couple of exceptions, but mostly not ones in which you sell the electrons to the power utility, all the environmental attributes that go with the contracts go to the utility as well.⁴⁵ So in Ontario, the Ontario Power Authority⁴⁶ is collecting the warehouse recs and carbon credits through all the twenty year green power purchase contracts.⁴⁷

And so that is sort of taken off the table from folks, which I think as I mentioned, is a little bit different than what you are used to dealing with in Ontario. There is a related side now. There is a fair amount of pressure on the Ontario Power Authority to do something about that. There is an awful lot of potentially commercializable environmental attributes that they can be doing something with, and so I think you will see in the near future something happening in that regard.

MS. LUSSENBURG: Thank you.

⁴⁴ See generally BLAKES LAWYERS, OVERVIEW OF ELECTRICITY REGULATION IN CANADA (2008), available at http://blakes.com/english/legal_updates/reference_guides/Overview%20of%20Electricity%20in%20Canada.pdf (reviewing the electricity market structures throughout Canada’s provinces).

⁴⁵ See, e.g., Glenn Kauth, *The Regulatory Wild West*, CANADIAN LAWYER MAG. (Apr., 2009), <http://www.canadianlawyermag.com/The-regulatory-Wild-West.html?print=1&tmpl=component> (discussing how the Ontario Power Authority retains the carbon credits generated by renewable energy producers and the implications of such a policy).

⁴⁶ ONT. POWER AUTH., <http://www.powerauthority.on.ca> (last visited Nov. 5, 2011).

⁴⁷ See Kauth, *supra* note 45.

MR. DURBIN: To answer your question, one of the issues with the bonus depreciation is there is an offset for a portion of the grant. Under Section 1603, there is a thirty percent grant for the cost of the project.⁴⁸ Typically when we approach these projects, there are three levels of incentives you look to.

You look at the federal, which I mentioned, and the state. With the state, you can also, and this is very common, look to the Department of Commerce⁴⁹ for additional help, and oftentimes, it will have programs that will allow you to take advantage of state taxes or state financing, grants, and things like that.

As states across the country have tried to move into this area, they have been pretty aggressive prior to the big squeeze on their budgets in terms of investing in their commerce departments to bring this development into their budgets, and part of it obviously is the job creation.⁵⁰

One of the factors with the Ohio project—the fifty megawatts project—is that they are going to build a photovoltaic manufacturing facility in conjunction with it, and that is part of the deal.⁵¹ You are not going to have a big, heavily subsidized project like that more than likely without some type of major job creation. That is what is going on here.

MS. LUSSENBURG: Thanks. The panel that preceded us was talking about the supply chain on the transportation side, so I am wondering if we could talk a little bit about what we are seeing in the renewable energy framework for the development of the supply chain in terms of financing and the opportunities that are there. How do they interface with the actual output of the energy, which is obviously the game plan, and so where are your clients sourcing their inputs, and how is that working at the moment?

MR. DURBIN: Typically, our clients approve a half-dozen photovoltaic (“PV”) manufacturers. The manufacturers tend to come from either Europe or Asia.⁵² There are one or two in the United States.⁵³ There is a Chinese

⁴⁸ American Recovery and Reinvestment Act, *supra* note 20. See also Allan Chen, *Treasury Grant Program Yields Positive Results for Renewables*, RENEWABLE ENERGY WORLD.COM (May 25, 2011), <http://www.renewableenergyworld.com/rea/news/article/2010/05/berkeley-lab-treasury-grant-program-a-positive-for-renewable-energy> (discussing the implications of the cash grant).

⁴⁹ U.S. DEP’T OF COMMERCE, <http://www.commerce.gov> (last visited Nov. 5, 2011).

⁵⁰ See Chen, *supra* note 48.

⁵¹ See Eric Wesoff, *50 MW Turning Point PV Project Closer to Reality*, GREEN TECH MEDIA (July 6, 2011), <http://www.greentechmedia.com/articles/read/50-mw-turning-point-solar-moves-closer-to-reality>.

⁵² See Oliver Strube, *Top 10 Largest Solar PV Companies*, RENEWABLE ENERGY WORLD.COM (June 29, 2010), <http://www.renewableenergyworld.com/rea/blog/post/2010/06/top-10-ten-largest-solar-pv-companies> (ranking the largest PV manufacturers and providing geographic disposition).

⁵³ See *id.*

manufacturer that has a facility in Rockford, Illinois, where it manufactures PV.⁵⁴ That company is trying to get a foothold in the United States and is also selling to Europe.⁵⁵

Sourcing is primarily from out of the country on smaller projects.⁵⁶ For larger projects, as I mentioned, you can sometimes attract a manufacturing facility. I work with a solar tracker manufacturer from Spain. Solar trackers are what the PV panels sit on and rotate with the sun during the day to optimize the production of power, and therefore increasing insulation for the facility.⁵⁷ This Spanish manufacturer would like to build a manufacturing facility in the United States. The problem is it just went through this situation in Spain where the federal government reduced the feed-in tariff, and the concern is because there is so much political risk here, with the states with tight budgets, that the United States government will reduce the level of support for renewable energy, and therefore, the supply chain will be negatively impacted.

So that is what is driving this. If there was more certainty long-term, I think you would see quite a bit of overseas manufacturers of renewable energy equipment located in the United States. There are several, and there is a lot going on in the United States, but it could be a lot more if there was more certainty of the law.

MS. LUSSENBURG: When you say political risk, you are talking about the programs being canceled? We do not usually think of the United States as being an area of political risk.

MR. DURBIN: Yes. Actually, I should specify. Political risk meaning that the programs could be either reduced, the incentive could be reduced so the development is not as commercially viable, or could be eliminated.

MR. BARRETT: In regards to the supply chain discussion in Canada, I guess the most interesting part of that is the domestic requirements in the province of Ontario. As part of the feed-in tariff program, the government sort of makes a deal with the community that says, “We will be paying these above-market rates for certain fuel types, but understand that if you are going to come build projects and Ontario will get paid those things, you are going

⁵⁴ WANXIANG NEW ENERGY LLC, <http://www.wanxiang-energy.com> (last visited Nov. 5, 2011).

⁵⁵ *Id.*

⁵⁶ See Stephen Lacey, *As PV Prices Keep Falling, U.S. Solar Project Pipeline Booms*, THINK PROGRESS (Sep. 12, 2011, 11:45AM), <http://thinkprogress.org/romm/2011/09/12/316588/pv-prices-solar-project-booms>.

⁵⁷ See David Appleyard, *Solar Trackers: Facing the Sun*, RENEWABLE ENERGY WORLD.COM (June 1, 2009), <http://www.renewableenergyworld.com/real/news/article/2009/06/solar-trackers-facing-the-sun>.

to have to source fifty, sixty percent of your project from Ontario based sources, fifty percent for wind, sixty percent for solar.”⁵⁸

And that is proving to be quite a challenge, particularly on the solar side. There is currently one significant photovoltaic (“PV”) manufacturer in Ontario.⁵⁹ That said, there is a rush in 2011 to build plants in Ontario on the PV side, and those are almost unilaterally Asian-based companies that have come over and set up assembly plants rather than true manufacturing.⁶⁰

There seems to be some wiggle room in the legislation around what manufacturing really means to get to the sixty percent. The policy seems to be driving that particular outcome, which was the government's intent in the first place.

On the wind side, it is much easier to get there. There are a couple of Canadian-based turbine manufacturers, and the nature of those projects allow you to get to the fifty percent a little bit easier than on the solar side.⁶¹ The one part that does not get a lot of play on sourcing is biomass.

There are a lot of people kicking the tires on very big biomass projects in Canada, and it makes some sense. The wind is free. The sun is free. But the challenge for biomass projects is always feedstock, and how do you secure a twenty year supply of whatever you are going to use to drive your biomass or basically your turbine?⁶²

So, Canada has kind of a national advantage there. There are huge losses to the country that can be made available for feedstock, for those types of projects, and they do not have the domestic content requirement restrictions at nearly the levels that other types of projects do.⁶³ So I think it is fairly certain you will see that type of fuel type start to gain some traction, in part, trying to get around some of the domestic content restrictions on the renewable fuel types.

MS. LUSSENBURG: Our discussion today is focused on more access to capital, and we heard in the presentations from yesterday that it is more

⁵⁸ *Domestic Content*, ONT. POWER AUTH., <http://www.fit.powerauthority.on.ca/Page.asp?PageID=834&ContentID=10544> (last visited Nov. 6, 2011).

⁵⁹ See Adrienne Baker, *Fits and Starts: Ontario's Green Energy Growth*, RENEWABLE ENERGY WORLD.COM (January 25, 2011), <http://www.renewableenergyworld.com/rea/news/article/2011/01/fits-and-starts-ontarios-green-energy-growth>.

⁶⁰ See *id.*

⁶¹ See *id.*

⁶² David B. Layzell et al., *Exploring the Potential for Biomass Power in Ontario: A Response to the OPA Supply Mix Advice Report*, BIOCAP CAN., 8-10 (Feb. 23, 2006), http://www.iseec.ca/media/uploads/documents/BIOCAP/Ont_bioenergy_OPA_Feb23_Final.pdf.

⁶³ *Feed-In Tariff Program Overview*, ONT. POWER AUTH., 6 (Aug. 2010), http://fit.powerauthority.on.ca/Storage/11160_FIT_Program_Overview_August_new_price_version_1.3.1_final_for_posting-oct_27.pdf.

expensive to invest or to produce clean energy, renewable energy, or going to clean technology.

So if you were sitting at ten thousand feet and you had to decide whether you were going to go to Canada or the United States, why would you pick one or the other? And what is so good or what is so bad about one or the other?

Where is it better, all things being equal? If your investor is neutral, does not care whether it invests in one jurisdiction or the other, what can we learn from one or the other? What is the United States doing really well? What is Canada doing really well? What are we not doing so well at? Is that a fair question?

MR. BARRETT: Sure.

MS. LUSSENBURG: You can start.

MR. BARRETT: I would say on the pro-Canadian side you have a financing community that is fairly vigorous, particularly on the equity side. On the debt side, as I mentioned, the Canadian banks are a little bit, but they are big balance sheets, and they are starting to come to the party.⁶⁴ The nature of renewables on the debt financing side, just to kind of lay this out for a second, is really kind of two-beat phases. You fund either/or. The construction side, sort of a two or three year window to build the project, and then you fund the running of it twenty years after on as a sort of take-out loan basis.

The Canadian banks are not participating so much on the construction loan side, but they will participate a little bit on the longer take outside once the project reaches commercial operation because the risk profile changes a little bit there.⁶⁵ So that community is going to be quite helpful to getting it financed on the Canadian side.

As I mentioned, we have great resources on the wind and biomass side; the solar side is not as good as many parts of the United States. You have a number of jurisdictions on policy base at the provincial level that are very supportive of renewable power, particularly in Ontario, but others are also taking a number of steps.⁶⁶ Saskatchewan recently had a three hundred

⁶⁴ See generally *Renewable Energy*, TD CAN. TRUST, <http://www.tdcanadatrust.com/renewableenergy/> (last visited Oct. 29, 2011); see also *Solar Panel Financing*, ROYAL BANK OF CAN., <http://www.rbcroyalbank.com/business/financing/solar-panel-financing.html> (last visited Oct. 29, 2011); see also *Renewable Energies*, SCOTIABANK, http://www.scotiabank.com/cda/content/0,1608,CID12011_LIDen,00.html (last visited Oct. 29, 2011).

⁶⁵ See ROYAL BANK OF CAN., *supra* note 64, at 65.

⁶⁶ See generally *Canmet Energy: Funding and Incentive Programs*, NAT. RESOURCES CAN., http://canmetenergy-canmetenergie.nrcan-rncan.gc.ca/eng/about_us/ottawa/funding/incentive_program.html (last visited Oct. 29, 2011).

megawatt call for wind.⁶⁷ The Maritime Provinces are also putting out competitive procurement processes as well.⁶⁸

Those are things that are also occurring in the United States. I cannot really say Canada has a distinct advantage or a leg up in any particular way, but it is certainly a market where renewables have grown exponentially over the last three or four years, and I would certainly expect that to continue in the near future.

MS. LUSSENBURG: So just before you comment, is it a cumbersome process?

MR. BARRETT: It has recently become quite cumbersome, particularly on the permit end. To give you a sense of that, in Ontario when they brought in the feed-in tariff program, one of the things that they addressed through the legislation in the regulations was the patchwork process that developers had to go through prior to the legislation.⁶⁹ It really depended on the municipality you built your project in. You could have a very favorable local counsel or a very unfavorable local counsel, and that made for a lot of uncertainty coming into the government. So the provincial government got rid of the variability in the approaches, began to permit the projects through a one window process.⁷⁰

If you get a single renewable energy approval for your project in Ontario, at the provincial level you are done. You finish that and it is all good. When the first permit was issued in Alberta, it immediately got appealed, and it got appealed on the basis of NIMBYism (“not-in-my-backyard”). This is also a significant factor in Ontario these days.

There are all sorts of anti-wind coalitions that are gumming up the system, if you will, by appealing the projects on the basis of health concerns, whether significant science was brought to bear, on setback requirements, or sort of any head they can use to try and challenge the process they are doing.

So getting a project financed, the physical process of getting it built, and getting it paid by somebody is pretty easy. Getting the permit is challenging.

MS. LUSSENBURG: Paul?

⁶⁷ See generally *Power Generation Procurement: Current Projects*, SASKPOWER, <http://generationprocurement.saskpower.com/wind.shtml> (last visited Oct. 28, 2011).

⁶⁸ See generally N.B. DEP’T OF ENERGY, *THE COMMUNITY ENERGY POLICY* (Feb. 2010), available at <http://www.gnb.ca/0085/Community/pdf/Community%20Energy%20Policy%20-%20English.pdf>; see also *Nova Scotia Renewable Energy – Current Activities*, GOV’T OF N.S., <http://gov.ns.ca/energy/renewables/current-activity/> (last visited Oct. 29, 2011); see also *Prince Edward Island Energy Strategy*, GOV’T OF P.E.I., <http://www.gov.pe.ca/publications/getpublication.php3?number=1464> (last visited Oct. 29, 2011).

⁶⁹ *Feed-In Tariff Program Overview*, *supra* note 63, at 2-3.

⁷⁰ See *id.*

MR. DURBIN: Between the United States and Canada, and there is just more demand in the United States, the problem is when it comes to renewable energy development there are only a handful of states where you can get it done, with the exception of a one-off deal.⁷¹

So we see quite a few special projects that are being developed around the country. And these are – these project structures are unique. They are hard to duplicate. They tend to be large. As Michael mentioned about the request for proposals in Canada, we have quite a few of those in the United States as well. I believe that in the United States it is going to expand, I hope, in terms of state laws that are supportive of renewable energy. I believe this will be driven because the companies are now gaining market share, larger companies are being developed, and companies from overseas are coming in.⁷²

These transactions are profitable and the cost of generating a kilowatt an hour, say of solar power, is dropping because photovoltaic prices are falling.⁷³ So it is hard for me to say there are advantages of the United States over Canada. We have clients that are in either country. They will go wherever there is an economical project. The suppliers from Europe want to supply the United States and Canada, so they will locate wherever they get the best advantage. I think right now in certain states and certain provinces you can do really profitable projects that make a lot of sense economically.

MS. LUSSENBURG: You said there are only a handful of states where you can get it done. So what does that mean? That you cannot go to Arkansas or Tennessee and have a renewable energy project?

MR. DURBIN: No, because in terms of mass development of renewable energy projects there are certain states with applicable state law. The public utility commission has set up an infrastructure, so the projects work financially. And those states and others in the Southeast, there is not much going on in this area. You really need both the federal and the state laws on your side because without support of state law, you are not going to have much development.⁷⁴

MS. LUSSENBURG: So my next thought or question is if you had a clean slate and you took the view that we had a national policy in either or both countries that we were going to get eighty percent of our energy from

⁷¹ AM. COUNCIL ON RENEWABLE ENERGY, UNITED STATES RENEWABLE ENERGY QUARTERLY REPORT 10 -11 (2010) [hereinafter *United States Renewable Energy Quarterly Report*], available at http://www.acore.org/wpcontent/uploads/2011/02/ACORE_USonly_Q_REVIEW_low411.pdf.

⁷² *Id.* at 5-9.

⁷³ *Id.* at 5-6.

⁷⁴ Yuliya Chernova, *Renewable Energy Firms Facing Financial Hurdles*, THE WALL ST. J., Oct. 27, 2011, <http://online.wsj.com/article/SB10001424052970204505304576655163362243984.html>.

clean technology and renewable sources, what is it that we need to do today to put that kind of a framework in place and to make it attractive to private capital as opposed to relying on the government continuously to provide grants or incentives? What is it we need to do in order to develop a framework where this is a viable proposition?

MR. DURBIN: I think you have to look at the energy source. Wind: where is wind plentiful? In the Plains States.⁷⁵ What is the problem? Why is there not a lot of wind development in the Plains States? It is because the transmission lines do not run out there. So you need to expand the grid.⁷⁶ That takes a major investment and we discussed that at one of the seminars yesterday.

If you had a clean slate, you would want to have a transmission grid that was aligned with the productive centers with respect to each energy source. Consider West Texas: you would be able to get power from West Texas where wind is plentiful out into other parts of the country. You have solar, which is plentiful in Florida, California, and in the Southwest. You would have a means by which you could get it out to the rest of the country. You would have a national renewable portfolio standard that would allow this transmission and that would not punish states. You would have to set it up in a way where it would work for everyone but that you could somehow pull the power from where it can most efficiently be produced and distribute it to where it is being demanded and used.

MS. LUSSENBURG: But that infrastructure, in essence, is what we are talking about.

MR. DURBIN: And on the financial side in the United States – and I will give you an example – a kilowatt hour of power in New Jersey is about fifteen cents.⁷⁷ A kilowatt hour of power in Illinois is about eight cents.⁷⁸ Why? Illinois has a lot of nuclear power.⁷⁹ It is very inexpensive to produce.⁸⁰ The problem is renewable energy costs more to produce right now.

Now, there are technological advances, and the President spoke in the State of the Union address about getting the photovoltaic price down to a dollar a watt.⁸¹ Well, it is three to four dollars a watt now to produce solar.⁸²

⁷⁵ Matthew L. Wald, *Wind Energy Bumps into Power Grid Limits*, N.Y. TIMES, Aug. 26, 2008, at A1.

⁷⁶ *See id.*

⁷⁷ *Renewable Energy in New Jersey*, AM. COUNCIL ON RENEWABLE ENERGY (Feb. 2011), <http://www.acore.org/files/pdfs/states/NewJersey.pdf>.

⁷⁸ *See generally Renewable Energy in Illinois*, AM. COUNCIL ON RENEWABLE ENERGY (Feb. 2011), <http://www.acore.org/files/pdfs/states/Illinois.pdf>.

⁷⁹ *See id.*

⁸⁰ *See id.*

⁸¹ President Barack Obama, Remarks by the President in State of Union Address (Jan. 25,

So I do not believe in the short term that this can be done without being subsidized, unless there are technological advances. This is not a desired result but the alternative would be the cost of traditionally produced energy, coal, and nuclear would go up.

So you do need financial incentives on the national level, and it would be nice if you could just have a national policy that supported renewable energy. Then the states would play less of a role, but that is just not how it is set up right now.

MS. LUSSENBURG: Michael?

MR. BARRETT: A couple of things: I would say to get to eighty percent is a pretty big number.

MS. LUSSENBURG: I am flexible. So how about sixty percent for starters?

MR. BARRETT: You would have to put nukes in there if you were going to get anywhere near that kind of number.

It is funny yesterday somebody made a comment from, and I forget the gentleman's name, but from a hydrocarbon background and he made a comment about nukes being in trouble. The recent Japan situation is going to cause people to question nuclear as a real base load source of power. I thought to myself when he made that comment that it was not so long ago we were all staring at CNN while oil gushed into the Gulf of Mexico. And yet, still no one is saying that the petroleum industry is going under any time soon. So I think nukes have a very big role in getting to those kinds of percentages.

I would also echo the thought that really the only way to do the projects on a non-subsidized basis is to make the economics of the projects comparable to their alternatives.⁸³ The most obvious way to do that in the near term is to price the externalities that go with hydrocarbons into them, and a carbon pricing is the most obvious way to do that. Once you start building those costs in, suddenly the economics of renewable projects start to look not so bad. To give you a sense of it, wind is being purchased in Ontario at thirteen and a half cents a kilowatt hour.⁸⁴ The wholesale price in

2011), available at <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>.

⁸² Jonathan Fahey, *Solar Power is Beginning to Go Mainstream*, BUS. WK., Oct. 23, 2011, <http://www.businessweek.com/ap/financialnews/D9Q1494G3.htm>.

⁸³ See generally *What's Next for Alternative Energy*, BOS. CONSULTING GROUP (Nov. 2010), http://beta.images.theglobeandmail.com/archive/01001/Read_the_BCG_Repor_1001121a.pdf.

⁸⁴ John Spears, *The Cost of Wind: Power When We Don't Need It*, TORONTO STAR, Sep. 25, 2010, <http://www.thestar.com/business/article/866129--the-cost-of-wind-power-when-we-don-t-need-it>.

the market is about six or seven cents,⁸⁵ which is double. But the pricing at six or seven cents that people quote is based on the fact that most of the power generation in Ontario is very old.⁸⁶

The infrastructure behind that is going to have to be replaced at some point soon. To build new nukes even on budget or build new gas on budget is going to drive the price way up from the six or seven cents quite close, if not above, to the price that is being paid for wind in the current technological state it is in today.

So I do not think we are that far away from wind being able to be quite profitable at a sort of normalized market rate. Solar has got quite a bit further to go to get there and I just do not see any way in the short term, at least, that it is going to be without some kind of subsidization being a significant component to the mix. But on an absolute basis, the costs are dropping very quickly.⁸⁷ I think the discussion around solar will change.

MS. LUSSENBURG: I hate to say this, but I do not think you answered my question, which was: how would you change the framework or the landscape to get there from a legislative source?

MR. BARRETT: I would price carbon into the mix. That certainly is something I do in Canada. In the short term, I know the official policy is to wait to see what the United States does but I think there is good thinking around a “go-it-alone” approach on that front, and the next election will have a lot to say about that. Aside from taxation paced models, the federal government really has its hands tied in federal renewable portfolio standard-type approaches. You are just not going to see that in Canada. It is going to have to be done on a provincial basis.⁸⁸

I think other provinces will be watching very closely to see how that plays out. If the current administration falls, and it fell in part over its push of the Green Energy Act, I think it will be very hard to find other jurisdictions that are willing to stick their nose out into the middle of the fray to regulate those type of outcomes.

MS. LUSSENBURG: Thank you. So I would like to ask Paul and then Michael to cover anything that they want to share that you have not already shared, and then I would like to open up the floor for questions. Is there something that you want to tell us that I have not asked you? This is your golden opportunity. Otherwise, we are done.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ Susan Taylor, *Ontario Expects Rates to Drop for Green Power*, REUTERS (Nov. 24, 2010), <http://www.reuters.com/article/2010/11/24/us-energy-ontario-idUSTRE6AM6D220101124>.

⁸⁸ *See generally Canada: A Renewable Energy Powerhouse*, GOV'T OF CAN., <http://investincanada.gc.ca/eng/industry-sectors/renewableenergy.aspx> (last visited Oct. 29, 2011).

CONCLUDING REMARKS OF MR. DURBIN

MR. DURBIN: I think I will echo some of the things I said but the main driver for these states to develop these policies and encourage the development of renewables are their renewable portfolio standards.

Now, this morning I took a look at Ohio since we are in Ohio—and I do not do a lot of work here but I did a solar project here—and Ohio has twenty-five percent by 2025.⁸⁹ So twenty-five percent of the load in Ohio will be from renewables.

How are renewables defined? Oftentimes it includes things that you would not normally consider to be renewables. Here I believe it is called third advanced generation nuclear.⁹⁰ So half of the standards, twelve-and-a-half percent, come from traditional renewable sources such as thermal, solar, photovoltaic, wind, and new hydro.⁹¹ Then you look on the other side of the ledger, another twelve-and-a-half percent, and there are all these other things.

So the key thing, and I want to make two points in this area, you need to really drill down that the renewable portfolio standards exist in thirty-six states, but there are so many different models.⁹² The other issue is that there is kind of an opt-out built into a lot of these standards in two different ways. One, if it is cost prohibitive for the rate payer to have that amount of renewables in the load, meaning their electricity rates go up too much and that is kind of determined by the Public Utility Commission,⁹³ then they can kind of put the renewable portfolio standard or portion thereof to the side.⁹⁴ The second way they kind of minimize the impact or reduce the development of renewables in these states is by allowing them to buy the renewable energy credits from out of state.⁹⁵ So you may have a rec produced in

⁸⁹ *Renewable Energy in Ohio*, AM. COUNCIL ON RENEWABLE ENERGY (last updated Feb. 2011), <http://www.acore.org/files/pdfs/states/Ohio.pdf>.

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *The Status of Renewable Electricity Mandates in the States*, INST. FOR ENERGY RES., <http://www.instituteforenergyresearch.org/wp-content/uploads/2011/01/IER-RPS-Study-Final.pdf> (last visited Oct. 28, 2011) (stating that the State mandates differ significantly from each other as well as from federal mandate proposals).

⁹³ See generally Christine Beaulieu, *Summary of State Renewable Portfolio Standards*, PUB. POWER COUNCIL, www.ppcpx.org/documents/PPCRPSSummary07.doc (last visited Oct. 28, 2011) (stating the different exemptions for states implementing renewable portfolio standards law).

⁹⁴ *Id.*

⁹⁵ See *What are Renewable Portfolio Standards?* FOREST RES. ASS'N, <http://www.forestresources.org/whatareRPS.html> (last visited Oct. 28, 2011) (stating that a regulated electric power provider under a cap and trade system may opt out of all or part of its renewable source goal by buying offsets from another provider that is exceeding its goal).

California for twenty-five dollars, and in New Jersey they just had an auction two weeks ago at four hundred and fifteen dollars.

So you can see if you are a developer, unless you can get that four hundred dollar price, you are not going to build the solar generating facility. The renewable portfolio standard is key to driving renewable energy development and, in particular, what the Public Utility Commission does in its implementation of it. That is something that I kind of looked at across the country and some of them are really strong. Some of them weaken over time, and others are not going to lead to a lot of development.

MS. LUSSENBURG: Thank you. Michael?

CONCLUDING REMARKS OF MR. BARRETT

MR. BARRETT: A couple things just to sort of circle back on financing. We talked about more traditional financing, equity debt financing. But renewable financing is sometimes more accurately described as traditional mergers and acquisitions (“M&A”) models because the nature in which projects get built up is kind of like a prospector mining. You have small companies with driven entrepreneurs who are out there taking the initial step in project development.

These entrepreneurs will go out and secure their land leases, start their initial permitting process, and may even get to the point where they get a Power Purchase Agreement with the utility. But then they run into the wall. That is not that expensive to do. Then they will go out and find hundreds of millions of dollars in capital to pay for the turbines or modules for photovoltaic energy.⁹⁶ That is just not what those folks are about.

These entrepreneurs then take that asset, generally the contract, and they flip it in the marketplace. They go and sell it to the large international developers who are opening offices in Canada and the United States and coming over here.⁹⁷ So financing really for those folks is just a model where they take it to a certain step, kind of like a prospector.

I am not going to pay for digging a hole in the ground and all the rest of it but I am happy enough to tax it at this point. That is kind of particular to the renewable power space in a way that these kind of projects get started, implemented, and finished on a financing basis. And particularly in Ontario right now, if you look at the number of megawatts that have been contracted

⁹⁶ See Elisa Wood, *Energy Entrepreneurs Flock to Renewables Bonanza*, RENEWABLE ENERGY WORLD (Oct. 12, 2011), <http://www.renewableenergyworld.com/rea/news/article/2011/10/energy-entrepreneurs-chase-renewables-bonanza> (stating how young green energy entrepreneurs emerge from throughout North America and finance their companies before selling it to bigger companies in the market for a premium).

⁹⁷ See *id.*

for already, we are well up over 1,500 megawatts of renewable power.⁹⁸ If all that power gets built, it is more than enough to satisfy everybody's needs, either policy needs or political needs in the province of Ontario.

I think the ship has sailed on the idea that there is a feed-in tariff that is still a play for people to get their projects contracted. What is going to come in Ontario and other provinces is more of a consolidation of an M&A type market where people with the assets are then going to be flipping them and consolidating them with larger players who have the capital structure to build them out.

I think in the next two, three, four years the Ontario and some other markets will really look like a rollup or consolidation market as opposed to an initiation or getting-going type market.

MS. LUSSENBURG: Thank you. Questions?

DISCUSSION FOLLOWING PANELIST DIALOGUE

MR. SCOTT: Good morning. My name is Ryan Scott. I have a question.

You guys talked a lot about the front end with securing capital and permits. I am curious, as to where the Purchase Power Agreement comes into the mix. Is it something you need to have at the beginning of a project, or is it something you kind of assume you will have no matter what?

And given the differences in price per kilowatt hour you are talking, notwithstanding some sort of a carbon pricing and capital projects, how do you make renewables attractive to utilities and who pays the difference? I assume I know the answer to that as far as I think it is passed on to the end user, but I am just curious what your take is on that.

MR. DURBIN: The Power Purchase Agreements (“PPA”) are on the very front end. We work with a whole lot of developers and they often have entrepreneurs that come in with projects saying, “I have this ten-acre parcel of land, it is near an interconnect, and this could be the thing.” We then ask who are the developers are going to sell the power to and that is it.

The PPA is one of the top drivers on the financial side.⁹⁹ With a feed-in tariff like in California, you must have an agreement with Southern

⁹⁸ See *Quick Facts: Forty New Clean Energy Projects To Create 7,000 Jobs*, ONT. MINISTRY OF ENERGY (Oct. 28, 2011), <http://news.ontario.ca/mei/en/2011/02/forty-new-clean-energy-projects-to-create-7000-jobs.html> (stating that Ontario produces 1,500 megawatts of power from eight hundred wind turbines alone).

⁹⁹ See *Energy Analysis: Fact Sheet Series on Financing Renewable Energy Projects*, NAT'L ENERGY RENEWABLE LAB., <http://www.nrel.gov/docs/fy10osti/46668.pdf> (last visited Oct. 28, 2011) (stating that while there are other mechanisms to finance solar photovoltaic systems, the focus is on PPA financing because of its important advantages).

California Edison¹⁰⁰—that is critical. Without that, you probably will not be able to attract a lot of serious discussion and definitely not any financing. I do not know if you want to talk about PPAs.

MR. BARRETT: I would echo those thoughts. It is kind of the key piece to the puzzle. The rest of it is just kind of marginal issues, but you really need that contract in your hand to make the project saleable and viable.

MR. SCOTT: As far as the second part about the disparity in price between conventional and alternative, it is approximately twice the amount per kilowatt hour.¹⁰¹ Notwithstanding the fact you talked about the capital investments for the old traditional powers and pricing in carbon, how do you make it attractive? How do you get the Power Purchase Agreement for lowering its project that will not cost you twice as much as what is available?

MR. DURBIN: I will give you a couple answers to that. One, it depends on the technology. Photovoltaic is a lot more expensive than wind but then you also have concentrated solar.¹⁰² I do not know if you have seen that, but I went to a facility in Spain with a six hundred foot tower that is full of molten salt, and they have acres and acres of mirrors that redirect the sun to heat the salt. The salt is then used to produce steam which spins a turbine so you can have twenty-four/seven solar. Now, the cost per kilowatt hour is lower for a facility like that, plus you get around-the-clock electrical service.¹⁰³ That is kind of a new concept and those projects are being built in the United States by a couple of companies out west.

In terms of the cost differential, without the subsidies solar is not going to happen right now unless there are major technological developments.

MS. LUSSENBURG: If the purchase agreement is to buy at thirteen cents versus six cents, is the thirteen cent agreement not more bankable?

¹⁰⁰ See *Investor Owned Utility Solar Photovoltaic Programs*, CAL. PUB. UTIL. COMMISSION, <http://www.cpuc.ca.gov/PUC/energy/Renewables/hot/Utility+PV+Programs.htm> (last visited Oct. 28, 2011) (stating that the California Public Utilities Commission authorized Southern California Edison to own and operate solar PV facilities as well as to execute solar PV power purchase agreements with independent power producers).

¹⁰¹ See Michael Kanellos, *Shrinking the cost for solar power*, CNET NEWS (May 11, 2007), http://news.cnet.com/Shrinking-the-cost-for-solar-power/2100-11392_3-6182947.html (stating that conventionally generated electricity ranges between five and ten cents, according to the Energy Information Agency and solar thermal costs around fifteen to seventeen cents a kilowatt hour).

¹⁰² See John Farrell, *Concentrating PV: A Cost-Effective Option for Distributed Solar*, RENEWABLE ENERGY WORLD.COM (Apr. 4, 2011), <http://www.renewableenergyworld.com/rea/blog/post/2011/03/concentrating-pv-a-cost-effective-option-for-distributed-solar> (discussing how concentrated PV may prove to be a more cost-effective and compact strategy of doing solar power than either concentrating solar thermal power or traditional solar PV).

¹⁰³ *Id.*

MR. DURBIN: It depends. I was working on a one megawatt project in New Jersey with the subsidies, so this manufacturing facility is paying fifteen cents per kilowatt hour for power. With the subsidies, and we are going to put a seven hundred kilowatt facility on the roof top, they are going to pay, I believe, eight cents. So the Power Purchase Agreements in New Jersey are always lower than market because you get revenue from the sale of the solar renewable credit.¹⁰⁴

MR. BARRETT: On the “who-is-paying-for-it side,” it is the rate payers at the end of the day. I am not sure if the model is different in the United States, but in Canada, the utility is kind of indifferent. The utilities are regulated to offer contracts at a certain price, or they will end up going to the rate setting process of Ontario's Energy Board,¹⁰⁵ make an application, and protect their buffer.¹⁰⁶ They will just pass on what they have to the rate payers to maintain their spread on the way through. It is a risk that the political party in office faces: that people will run the mechanics through their head, look at their energy bills, and decide if it is worthy of a price increase or not for all the other benefits that come with it. But, ultimately that is the process.

MR. DURBIN: And then just to add one thing, when there is a feed-in tariff like in California, the utility is required to pay a certain amount and that obviously goes directly to the rate base as well.¹⁰⁷

MR. CUNNINGHAM: My name is Dick Cunningham. Yesterday there were lots of discussions of subsidies, whether feed-in tariffs or production cost subsidies, and the general reaction of a lot of the panelists is that it is terrible because they expire, and then you are left with something you have created that is uneconomic when you withdraw the subsidies. What is your take on that observation from a financing standpoint?

MR. DURBIN: I see it as a problem with site manufacturing facilities and developing more of an industry in terms of building these parts of renewable energy equipment. We have not had an issue when there is a mandate on the utility, say New Jersey, to buy under the renewable portfolio

¹⁰⁴ See *Finding the Financing for Solar Projects*, N.J. ST. LEAGUE OF MUNICIPALITIES, http://www.njslom.org/magart_0209_pg68.html (last visited Oct. 28, 2011) (explaining that solar renewal energy certificates are a type of clean energy credit that can be bought or sold and give the municipality another source of revenue to offset the cost for an installation).

¹⁰⁵ See *Rules, Codes, Guidelines & Forms*, ONT. ENERGY BOARD, <http://www.ontarioenergyboard.ca/OEB/Industry/About+the+OEB/What+We+Do> (last visited Jan. 25, 2012) (stating that the Board sets the rate for the Standard Supply Service for distribution utilities that supply the commodity directly to consumers).

¹⁰⁶ *Id.*

¹⁰⁷ See *Summary of Feed-In Tariffs*, CAL. PUB. UTIL. COMM'N, <http://www.cpuc.ca.gov/PUC/energy/Renewables/feedintariffssum.htm> (last visited Nov. 5, 2011) (stating California enacted legislation creating tariffs paid by utility companies to customers based on the cost of generation).

standard when a certain percentage of their load has to be renewables.¹⁰⁸ We have not had an issue on the financing side with a concern that they are going to pull the rug out from under them on that mandate since it is in place now.

In terms of future development, my concern is that as state governments feel the financial pressure and the political pressure of certain groups with that kind of shift opinion on renewables because the state governments say it increases the utility costs of rate payers too much, that you may not have future development.

I think the development that is already in process is pretty secure, at least judging by the financial investment.

MR. CUNNINGHAM: You said you have been to Spain and you saw the concentrated solar. This is an example of the feed-in tariffs that produced the wind power explosion in Spain. If you go from Gibraltar and drive west toward the coast over in that hilly area, there is this massive collection of wind turbines and Spain's understanding is all that now is becoming uneconomic. The Spanish government cannot keep up with feed-in tariffs and I am not sure what comes after the "and" but they do have a lot of "ands." But was that your judgment as to what was happening in Spain?

MR. DURBIN: In Spain, there is a lot of fear from the developers that I talked to. They felt that, politically, things at the end of the day would not be as bad as was feared. I am not sure.

MR. CUNNINGHAM: My own personal opinion is that governments that have subsidized something that has become really huge are more likely to fall out of power because they backed away from it and it collapsed but they continued to finance it. But that is just a political assessment from a lunatic leftist.

MS. LUSSENBURG: But is there not like a private financing issue—which is where I thought you were going—if you were a bank or private equity investor and you were providing other mezzanine or debt financing to the development project?

MR. CUNNINGHAM: Why would you give it if commerciality depends upon the government's subsidy that may not be there?

MS. LUSSENBURG: Not why would you give it? Would your commitment not be co-terminus with the end of that subsidy because you do not want that? But then I guess there is no capacity to pay. So how do you deal with that issue because there is no continuity, right, and although a lot of the Purchase Power Agreements are two years?

MR. CUNNINGHAM: Even a better question than mine.

¹⁰⁸ See generally *New Jersey: Incentives/Policies for Renewables & Efficiency*, DATABASE OF ST. INCENTIVES FOR RENEWABLE AND EFFICIENCY, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NJ05R (last visited Oct. 28, 2011).

MS. LUSSENBURG: So when you are in the year 2018 and you need new capital, what happens? Mike, maybe you want to go there?

MR. BARRETT: If the assumption in the question is that there is a risk and you get issued a twenty-year contract by the power authority but fifteen years into that contract the rate changes, then I do not think that is going to happen.

The contracts are the contracts. Once they are signed, you are locked in for twenty years, but I think, if over time new contracts are not going to be awarded because the government pulls in its horns on the feed-in tariff rates, then frankly I think that is a likely outcome.

I think in Ontario you are not going to see the current feed-in tariff rates survive past five years from now, or maybe less. But I think that is expected. I think the idea is that you incent the development of the market place, the community around it, and you hope that that all drives cost down, and it becomes self-sufficient through that incubation period initially.

MR. CUNNINGHAM: Or the price of carbon will go up.

MR. BARRETT: Yes, or other reasons why it becomes more normalized from a financing standpoint.

To answer Selma's question, generally speaking, you would find financing at the front end of your project, so that you would not be going eighteen years into it to try and re-do financing. It is largely done once it is built. There are very high capital costs at the front end but, unlike a coal plant or a natural gas plant, they have no fuel cost going forward.

It is virtually free to run the thing once you have built it. You are really not facing a refinancing risk with the nature of these projects at some point down the road. Once you got your contract, you can finance off of that. Whether you can get contracts that are financeable down the road, I think that is a separate question and that will play itself out.

MR. DURBIN: And on the equipment issue, if there is a breakdown in the equipment, you usually have a warrant and the big insurance companies are providing insurance to cover the warranty. They are kind of double wrapping their assets.

MS. LUSSENBURG: Michael?

MR. ROBINSON: Michael Robinson from Fasken Martineau. A bit of good news, a bit of bad news, and then a question.

The good news is that there was a comment that biomass is not getting off the ground very well. I can give you some good news there about "zoo poo."

MR. BARRETT: I am all ears.

MR. ROBINSON: The Review Committee that I sit on just approved a grant to the Metropolitan Toronto Zoo¹⁰⁹ and some other partners to take all

¹⁰⁹ See *Zoo Poo to Biogas Energy: Great Pootential*, TORONTO ZOO, <http://www.torontozoo.com/conservation/BioGas.asp> (last visited Oct. 28, 2011) (stating that

the zoo poo plus a whole lot of other nasty things that come from fast food places. They want to get rid of this waste and make a biomass operation there. That is a grant so that they can take that project on to the point of getting their feed-in tariff.

I think the bad news, and I disagree with Michael a bit on the sanctity of the feed-in tariff, is that anybody who watches what happened in Canada and Newfoundland in 2008 and then looks hard at the Canadian parliamentary system can realize that a government can pass a law, which, if it is clear enough, will cancel your contract and you have no recourse unless you are a foreigner. Because in our system, we have a Charter of Rights and Freedoms, which does not recognize business interests, does not recognize corporate interest, and does not recognize sanctity of property; it recognizes individual rights.

And the former Premier of Newfoundland put through a law in thirty-six hours right from the first, second, and third readings to signature by the left-handed governor to expropriate assets.¹¹⁰ The only recourse to that corporation was not under Newfoundland law because the statute specifically stated there is no recourse under this statute; the recourse was under the North American Free Trade Agreement, so the federal government and provincial government who did not sign that agreement shelled out \$130 million of our taxpayer money.

So if this government in Ontario does not stand, I see no reason why a new Conservative government could not just cancel all contracts.

MR. DURBIN: Just rip them up.

MR. ROBINSON: Just rip them up. With a clear and specific bit of legislation, this would appall my American colleagues, and they would say, "You do not have a constitutional right?" We do not have a constitutional right to the sanctity of property.

So that is the bad news. Maybe you better buy some political risk insurance from United States Ex-Im Bank¹¹¹ ("US Ex-Im Bank") or something. The question is this: yesterday I mentioned this interesting phenomenon of the US Ex-Im Bank guaranteeing \$450 million of bonds of the United States company First Solar, so it could come to Canada and build a very large array of solar panels.¹¹²

the 500kW Biogas facility of the zoo will produce a third of the Zoo's electricity demand and will reduce the CO₂ emissions by ten thousand tons).

¹¹⁰ See Oliver Moore, *Newfoundland Seizes Assets of AbitibiBowater*, THE GLOBE AND MAIL, Dec. 16, 2011, <http://www.theglobeandmail.com/report-on-business/article727363.ece> (stating that the company was given four days to surrender entitlement before the government announced the expropriation).

¹¹¹ *Mission*, EXPORT-IMPORT BANK OF THE U.S (May 31, 2011), <http://www.exim.gov/about/mission.cfm>.

¹¹² Press Release, Export- Import Bank of the United States, Ex-Im Bank Announces Over

The United States company will do well out of this because it is getting sixty-two cents a kilowatt for solar power under these feed-in tariffs but I would ask you to respond to this irony that I see. Japan, the United States, and the European Union are suing Canada at the World Trade Organization¹¹³ (“WTO”) because Ontario included in its legislation the obligation to source the equipment for solar, wind, or whatever in Ontario, and is obviously designed to create an industry by virtue of a subsidy.¹¹⁴

And my off-the-top opinion, not having read all the briefs, is that it is a good case. So why is the US Ex-Im Bank, an agency of the United States, suing Ontario on one hand and then issuing a guarantee for \$450 million worth of bonds so they can take advantage of this illegal statute?

MR. BARRETT: I am going to take this on. The first one was not a question you asked but just a comment on the possibility they will tear up contracts. I suppose that is a possibility.

I think the consequences of that for people's confidence in Ontario, as a counter party, would be severely shaken if that threat was pursued. There may be some short-term political gain for a conservative party to promise to do that, particularly in a rural vote, as it tries to come into power. But the long-term consequences of that would be very dire in my view.

MS. LUSSENBURG: Did Ontario not get sued successfully under the Uniform Commercial Code Section 3-407 where it changed the terms and the Ontario government had to ante up?

MR. BARRETT: I am not sure about the 407 law. I know the recently canceled natural gas plant in Oakville, one of my partners was involved in that proceeding, is going to cost the Ontario government a pretty penny by the time that is paid off.¹¹⁵

I am sure they can pass a piece of legislation that says project managers or owners get no damages, even though the government can tear up the contract. But that is pretty Draconian, I think.

MR. ROBINSON: Only in Newfoundland.

MR. BARRETT: Yes. The way, though, that it has played out a little bit in the financing model is lenders and project developers are not so much

\$455 Million in Project Financing for First Solar's Exports to Canada (Sept. 2, 2011), *available at* <http://www.exim.gov/pressrelease.cfm/830B629B-023E-5C34-5863BEEA2A634632/> (stating that the Bank authorized two transactions totaling \$455.7 million to support First Solar's exports to solar-energy projects in Ontario, Canada).

¹¹³ Request for the Establishment of a Panel by Japan, *Canada - Certain Measures Affecting the Renewable Energy Generation Sector*, WT/DS412 (Oct. 6, 2011).

¹¹⁴ *Id.*

¹¹⁵ *See Oakville Power Plant Plan Cancelled*, CBC NEWS CAN. (Oct. 7, 2011), <http://www.cbc.ca/news/canada/toronto/story/2010/10/07/oakville-plant.html> (discussing residents' fears that an accidental explosion at the proposed power plant site, located near railway lines and major roads, could be devastating).

concerned that the contract itself will go away but under the terms of the contract, there is a little bit of ambiguity about what you get paid for.

Some people take the view that if they generate electrons and have them available to feed into the grid, that is what they are paid for. How the energy is used and what the customers do with it does not matter but the contract says if the producer generates the electrons and put them on the grid, customers are paying the producers for it. Others are taking the view, and this is sort of a curtailment issue, that the Ontario Power Authority or other authorities have the right to say we actually do not feed your power right now. We are at a lull. We are at a low period of time and day pricing is coming, and so you get paid for what we use, and we are going to curtail the amount of power we use.

There is a risk there and something the lending community is very focused on to make sure they understand the possibility that, notwithstanding you got your twenty year contract, you may not see that much revenue because the buyer steps away from buying it.

Under the domestic content, I have to be a little bit careful. Our firm was retained to take a shot at the interior government on behalf of Japan, so there is not a whole lot I can say in that regard. I guess I would say the manner in which the regime protects domestic content through the feed-in tariff, and I was discussing this yesterday, is such that it is the developer itself that is required to purchase or procure through Ontario. It is not a government agency, not the entire power authority itself or a government arm that is doing the buying under that process, and I think there is some view that because of that distinction it may stand.

On its face, sort of stepping back out of the legal analysis, what you are going to force people to buy here kind of violates the basic principles of the most favored nations status and World Trade Organization principles. So I will be following certainly with great interest how that plays out.

MS. LUSSENBURG: Do you want to add anything?

MR. DURBIN: Since I worked at the U.S. Ex-Im Bank about fifteen years ago, when I was there we were focused on emerging markets and we were not open for business in markets in which financial institutions and insurance companies were doing business. So I am surprised that they are supporting this export to Canada, but I would like to learn more about it. It is interesting.

MR. BARRETT: We are actually doing the deal you are talking about, I think it is the Enbridge facility that was discussed yesterday.

MR. ROBINSON: No, it is the First Solar one.

MR. BARRETT: Yes, so First Solar built a ninety megawatt solar farm near Sarnia, Ontario,¹¹⁶ and First Solar is also building these publicly announced deals. We are doing these two deals, the second and third largest solar farms in North America, with General Electric¹¹⁷ and Florida Power & Light,¹¹⁸ and it is the same structure.

The lender has their loan guaranteed by the U.S. Ex-Im Bank, and the idea, I think, is that the U.S. Ex-Im Bank looks at it like it is an export out of the United States. The panels are made in the United States and shipped across the border, so they are going to support that export activity out of the United States by guaranteeing the loan.

MR. ROBINSON: But there will not be a contract if the solar panels come in from the United States because the fit contract says you cannot do that.

MR. BARRETT: In the Enbridge case and in the two follow-up cases, those are under the regime prior to the fit contract which is called the Renewable Energy Standard Offer Program (“RESOP”) program.¹¹⁹ And there is no domestic content requirement with that program, so there is no risk that the domestic content will get in the way of those projects getting done, and they are at forty-two cents. They are not at six cents. I mean, it is still way over six cents, I realize but —

MR. ROBINSON: A little rich.

MS. LUSSENBURG: So I am looking at the clock, and I see Jim is lined up with a question. So we will have Jim as the last person bringing a question to the panel. Thanks.

¹¹⁶ See Becky Stuart, *Ontario: Commercial Operations Start on 80 MW PV Plant*, PV-MAGAZINE, (Oct. 5 2010), http://www.pv-magazine.com/news/details/beitrag/ontario--commercial-operations-start-on-80-mw-pv-plant_100001311/ (stating that First Solar has achieved commercial operation of their eighty megawatt Sarnia Solar Project, which they say, makes it the largest operating PV facility in the world).

¹¹⁷ See *Size Matters: GE Plans to Build Largest Solar Panel Manufacturing Plant in US*, ECOFRIEND.COM, (Apr. 13, 2011), available at <http://www.ecofriend.com/entry/size-matters-ge-plans-to-build-largest-solar-power-plant-in-us/> (stating that GE Plans to build the largest solar panel manufacturing plant in United States).

¹¹⁸ See *FPL Celebrates World's First Hybrid Solar Farm*, ENERGY MATTERS.COM, (Mar. 8, 2011), http://www.energymatters.com.au/index.php?main_page=news_article&article_id=1383 (stating that Florida Power & Light Company celebrated the official opening of the first major hybrid solar power installation in the world, the Martin Next Generation Solar Energy Center).

¹¹⁹ *Ontario's Standard Offer Program*, ONT. POWER AUTH., <http://archive.powerauthority.on.ca/sop/> (last visited Jan. 23, 2012). See generally Jim MacDougall, Ont. Power Auth., Presentation at the Third International Conference on Integration of Renewable and Distributed Energy Resources (Dec. 10-12, 2008), available at http://www.3rdintegrationconference.com/pres/16_MacDougall.pdf (providing a general overview of the RESOP program).

MR. McILROY: Thank you. I am James McIlroy, an international trade lawyer. And when I see the word "tariffs," my ears always perk up, and when I saw feed-in tariffs, I was intrigued by that and did not know what it was, and now that it has been explained to me.

It really sounds like it is the other "r" word that everybody is trying to avoid: "carbon tax." I think consumers are going to see this as a tax because they are seeing it on their monthly bills, but do not take my word for it.

We are going to see it within six months in Ontario. This is going to be a major political issue. The issue, the way I have seen it defended by the McGinty government when they attacked the minister, is that he says, "I know we are paying a lot of money, but we are going to get a new industry. It is job creation, and we are going to get a new industry."

With respect to this second shoe that is going to drop, we have already heard that the local content rules make it look funny when Ontario is complaining about Buy America rules in the United States and I think it hurts our case.¹²⁰ We have also already heard about this World Trade Organization ("WTO") case that is already on.

Yes, this is a job creation program. This is industrial development, but it is not to create an industry to supply the domestic market; it is to create an industry to export. And my question is: are we going to be in another WTO dispute? My friend Dick Cunningham can correct me if I am wrong, but this smells like an export subsidy to me. So you are going to finance an industry that is going to be landlocked. You have told them you can export, but they are not going to be able to export. I am just wondering is this feed-in tariff a goofy idea and we are not going to see it any more? Or do you really think that it has longevity?

You mentioned, Michael, we will lower the sweetheart pricing a little bit as time goes on, and we will continue on with it, but it sounds to me like it is not a sustainable financing option. Could you comment?

MR. DURBIN: Is that a question for you?

MR. BARRETT: Sure. In the short term, it is not sustainable. I do not think there is any way those rates can hold up in the longer term. I would agree with you that one of the principal drivers of it is to create not only the power generation but the manufacturing base to support it all. I also agree that the thinking is that those will be export driven facilities.

¹²⁰ Press Release, Ont. Chambers of Com., OCC Calls For Canadian Exemption To Buy American Plan (Oct. 12, 2011), *available at* <http://occ.on.ca/2011/occ-calls-for-canadian-exemption-to-buy-american-plan/> (stating that the Ontario Chamber of Commerce supports the Canadian government in its efforts to ensure the Buy American provision in the American Jobs Act does not negatively impact Canadian businesses).

Certainly, the Chinese entities that have come to Ontario so far view it with that in mind. They are locating in Ontario to service predominantly North America, not just Canada. So when you cross that forty-ninth parallel, that is where your issue gets triggered.

It is hard to see the viability of those manufacturing initiatives without access to the United States market. I think they are hedging their bets a little bit in the sense there was an issue I mentioned before. When we think of the manufacturing facilities, we think of long assembly lines and screws and bolts ending up, but it is large chunk manufacturing and final assembly sort of stuff that they are doing.

MR. McILROY: It is a screwdriver plant.

MR. BARRETT: I think it is late stage assembly on the line and I am not sure the capital investment that they are really having to put forward to do that exposes them that much. I think they are kind of hedging their bets a little bit, that they will be able to service the Canadian market, and if they find a trade issue that forecloses the United States market, then they have not built a soup-to-nuts manufacturing facility with hundreds and hundreds of millions of dollars at stake, and I think they recognize that issue. And that is a way they are trying to address it.

MR. McILROY: Thank you.

MS. LUSSENBURG: That concludes our panel. Thank you very much for your attention and your questions.

