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Chair

Mr. Harold Albrecht

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● (1530)

[*English*]

The Chair (Mr. Harold Albrecht (Kitchener—Conestoga, CPC)): I'd like to call our meeting to order. This is meeting number 26 of the Standing Committee on Environment and Sustainable Development.

We're embarking today on our study of disposal of solid waste. We have with us four different witnesses: Plasco Energy; Tomlinson Environmental; Mr. Douglas Cardinal, as an individual; and by video conference from Edmonton, Alberta, BioWaste to Energy for Canada Integration.

I think it's important for us as a committee to recognize the value of this study in how we deal with our waste in terms of what it does to our environment: our land, our water, and our air. I think that's the obvious reason this committee will study this issue. We have a bonus to the study in that we're looking at ways that disposing of some of this waste can lead to energy production.

I will comment at the outset that we expect votes in a few minutes, so we're going to proceed with opening statements and immediately after the votes we'll be back. Apologies to our witnesses, we'll give you a bit of a break. I don't know if there's time for coffee or not, but hopefully there will be.

We're going to start with Mr. Edmond Chiasson from Plasco Energy Group. We're giving each of you a 10-minute opening statement and after all the opening statements we will come back to questions from the members.

So from Plasco Energy, Edmond Chiasson, vice-president of public affairs and corporate communications, proceed, please.

Mr. Edmond Chiasson (Vice-President, Public Affairs and Corporate Communications, Plasco Energy Group Inc.): Committee members, thank you very much for your kind invitation and for your interest and work in the important area of municipal waste management in Canada.

As mentioned, my name is Edmond Chiasson, and I should apologize that all of my remarks will be in English. Even though I have a nice Acadian name from Cape Breton Island, I did all of my studies in English, and somewhere along the way, English took over.

I've been with Plasco Energy Group for eight years. I have to say that as I've learned a great deal about the complex world of waste management and energy generation, not being either an engineer or a science person, even after eight years, I don't want to qualify myself as an expert on a particular technology. I'll put that on the table at the outset.

I'd like to make a first comment, though, for consideration, and it's the following. I think there's an undeniable reality in the world of waste management. That reality is that we, as a society—and not just restricted to Canada—haven't really done a great job of managing materials after we're ready to get rid of them. We haven't done a great job of designing products so as to minimize waste when they're finished their life cycle. We haven't really figured out how to reuse as many materials as we could, and we haven't figured out the best way at all times to recycle materials.

We've made some good efforts. We've made great progress in the last 30 or 40 years, but one fact remains. The predominant method of dealing with residual materials in the world today, including Canada, is to bury these materials in the ground. In Ontario, for example, last year, that was nine million tonnes. Think of how much garbage that is. At the end of the day, I think that digging a hole in the ground to dispose of material just doesn't feel right. There has to be a better way to deal with that.

What does it mean to do better than what we're doing now? At the outset, maybe we should set an objective for ourselves. Our experience at Plasco has been that in Canada, and in many other jurisdictions, when we're dealing with policy-makers, there seems to be a consensus on the objective of good waste management practice, and the objective is zero waste.

We, at Plasco, actually support that objective, and we hope to contribute to that objective. We believe our contribution can best be measured on the premise of technological innovation, which is of course one of the items referenced in your study. By that I mean, how can we try to recover more value from materials that we now landfill? Let's make sure that materials are redirected to their next best use, and just before the garbage truck heads to the dump, let's see what innovation can offer. That's where the story of Plasco begins.

Plasco Energy Group is an Ottawa-based company that has been developing its own technology to improve on current established waste to energy. Plasco's core process and intellectual property go back more than 25 years, including early partnerships with our own National Research Council. At its most basic, the Plasco process gasifies waste to a fuel, what we refer to as a synthetic gas, that can then be used to generate electricity with internal combustion engines. The key factor here for non-engineers like me to understand is that rather than burning waste—what's known as incineration, combustion, or energy from waste—Plasco uses heat to change waste materials from solids to a gas. Hopefully, we all remember that from science. That's known as gasification.

While gasification is a well-known and proven technology, it is not yet fully established as a commercial technology for managing municipal waste, where every garbage bag is different. That's why this is still in the innovation stage of the technology development cycle. However, we're finally ready for the stage of commercialization.

Why are we and others doing this? That's the power of innovation. We're doing this because we believe that gasification has the potential to generate more energy from one tonne of waste as compared to existing technology—more energy, more value. We believe superior environmental benefits can result from that, primarily cleaner air emissions, the recovery of water as opposed to the use of water, and less waste left for landfills.

● (1535)

The bottom line is that we believe technology offers something potentially better for many communities. That's why we're doing this. Of course, the potential of a disruptive technology could lead to a great business right here at home, jobs at home. Of course, it's not easy. What makes sense on paper doesn't always work in real life. But 25 years later, we believe we're about ready to go.

What has Plasco done so far? We have raised around $400 million to advance our technology, and more than half of that capital has been spent in Canada. That's a good story. We've created 130 full-time permanent good jobs, and we've worked with Canadian companies as key suppliers to building our system, and they'll be part of our supply chain when our technology goes to market.

We've done much market research on where there's a good fit for our technology. We've built a commercial-scale demonstration facility to prove our technology readiness, and we are now ready for that next big step of going to full commercial deployment. We're working with the City of Ottawa, the Government of Ontario, and the Government of Canada, for a first commercial facility right here in the City of Ottawa, and we're continuing to move forward on that project. We're also looking at project opportunities in other jurisdictions.

I'd like to emphasize my next point. While we like to tell our own story, we're very proud of our own story, we feel positive about something that's broader than that, which is the reality that Canada is developing a number of other technologies in this sector. It's not only about Plasco. Last year McKinsey and Company did a major study for National Resources Canada, your colleagues on that committee, and they basically determined that Canada has huge potential in this emerging space of energy from waste. We are hopeful that you will consider that report in your deliberations and in your work, because it actually suggests that Canada can become a global leader in this next stage of technology.

Some five years ago we were approached by the U.K. High Commissioner, Anthony Cary was his name, to come and visit our facility. We were advised that as part of its EU commitment to waste management targets and commitment to renewable energy, they were developing a new policy framework to support technologies such as Plasco. In our view, superb work has been done in the U.K. that may be of interest to Canadian policy-makers. It may be worth noting, if I can be so bold, that this policy thrust has been developed and is being implemented by a coalition government of Conservative Prime Minister Cameron and Liberal Democrat Leader Nick Clegg. So some policy matters can cross political lines maybe. As a result of this policy, there are significant development projects happening in the U.K., two of which are now in construction and involve more than $600 million of investment and 1,500 jobs. Other projects are following. Could this be a model for Canada? Does this suggest that if the policy is right, the private market will follow?

I sometimes say that 10 years ago there were five people working at Plasco in a small warehouse in east-end Ottawa trying to determine where they were going and whether they'd be in business in a few months. I'd like to report that Plasco is a good example that innovation is alive and well in Canada. With $400 million and 130 full-time jobs later, we believe we have one of the technologies that can bring the Canadian brand to the world.

We'd be happy to provide our thoughts on how the government could possibly assist an emerging industry in which Canadian companies could be global leaders. We may not be Google and developing a driverless car, but if our technologies can make a significant contribution to the world challenge of waste management and a cleaner planet, we will have done something good for the world.

Thank you.

● (1540)

The Chair: Thank you very much, Mr. Chiasson. You were well under your 10 minutes, so I appreciate that sensitivity.

We'll move now to Mr. Walters of Tomlinson Environmental Services. I would like to comment before he begins, and Mr. Cardinal as well, that Mr. Carrie wanted me to give his greetings to you because he's off to Europe or somewhere.

Mr. Walters.

Mr. Michael Walters (Project Manager, Municipal Business Development, Tomlinson Environmental Services): Yes, thank you, Mr. Chair. Again I, too, thank you for the opportunity of addressing the committee here today.

My name is Michael Walters. I've been in the waste management business for over 40 years and in the last four years I've been with Tomlinson, R.W. Tomlinson. Over that period of time, I started back with the Ministry of the Environment in 1972 looking at permitting landfill sites. Then over that period of years I've been in involved in siting new landfill sites, designing landfills, and permitting in municipal as well as private sector operations. In the last little bit, I'm involved with the operation of private sector waste diversion operations which—I have to caution myself; I have to speak a little slower for my interpreter there—I'm quite excited about.

Now, as a guy who has been in the landfill business for over 40 years, I've always had an eye for the waste diversion side of life. I like getting involved in things that actually do something or do something tangible. I'm going to tell you about some of that here today in the time that I have. I'm going to focus primarily on the innovations and best management practices that we at Tomlinson have implemented specifically in the construction and demolition recycling area.

But before I get to that, I'll tell you a little bit about our company. It's quite interesting. I've worked with big companies, and Tomlinson is a big company that is unique. It's a family-run business. The quick overview is that they started operation in 1969, and we provide heavy civil construction services, environmental services, road construction services, road maintenance services, and site development services to our clients based in the institutional, municipal, commercial, and industrial sectors.

Tomlinson also provides construction equipment, construction material such as crushed aggregate, and you'll see hot asphalt and ready mix. Our primary area of operation is in the national capital region, but we're in eastern Ontario, we're in the Gatineau, and we're actually expanding.

Tomlinson is staffed with over 1,200 employees consisting of professional engineers, chartered accountants, technologists, technicians, highly skilled trades people, and clerical staff. Our size and our financial strength gives us the experience and expertise to manage many projects. The other thing is that being privately owned and operated gives us the flexibility to respond quickly to our clients' changing needs.

So now that I've given you an overview of our company, let me tell you about this initiative that we pioneered in the Ottawa area within our construction demolition waste. I call it C and D, construction demolition.

Back in about 2006 was when I first got very interested in this, and Tomlinson was already involved in doing this. Back in 2006, the City of Ottawa presented to council just an overview of the tonnage history in the City of Ottawa. At that time, there were over one million tonnes of waste generated within this area, of which about 320,000 tonnes was residential, coming from your homes. But there was also 240,000 tonnes of construction demolition material that was being generated, and the remaining 440,000 tonnes per year was industrial, commercial, and institutional. We hear a lot about it, but industrial, commercial, and institutional are our schools and our hospitals.

We're involved in all those areas that I mentioned, all waste diversion, but in the time that I have I'm going to zero in on the C and D market and tell you what we've been able to do. Based on the breakdown I just presented, over 25% of the waste that's generated within the City of Ottawa is from the construction demolition sector.

We at Tomlinson saw this as an important market to enter into back in 1997. We designed, permitted, and built our construction demolition recycling facility that complements our roll-off division that services this market. Our C and D, or construction demolition, recycling facility is located at the Springhill Landfill, which is within the city of Ottawa.

Over the past 17 years since the operation started, we've been able to perfect the process to the point where we historically divert over 70% of the material that comes to us. That's 70%.

● (1545)

This diverted material consists of white wood that is used in the agricultural and horticultural industry. It's especially used for cattle bedding. It has to meet a certain criteria or a certain spec to be used in that area. My other wood products we crate into a biomass that is used in the energy production industry. We recover ferrous and non-ferrous metal that's used in the scrap metal industry and we recover cardboard that we send to our material recovery facility in Carp for baling into the market. We take in concrete and brick and we crush it and make it into aggregate. Gypsum we recover and process and it's used in the agricultural area for soil amendment.

We as a company continue to see the opportunity in the C and D market in the Ottawa area. With over 240,000 tonnes being produced annually or 24% of the waste that we all produce in this municipality, we know there's a significant portion of waste stream that is still being sent to the landfill site. In order to increase the amount of diversion from the still unrecycled portion of the Ottawa C and D market waste stream, we at Tomlinson are currently permitting a new construction and demolition recycling facility that will be located in the west end of the city at our Carp waste recovery facility. This proposed new plant has already received a site plan approval from the City of Ottawa and we plan to receive the required Ministry of the Environment environmental compliance approval within the next few weeks. When this plant is constructed and operational in 2015 we will be able to receive and process and recycle an additional 100,000 tonnes to 150,000 tonnes of C and D material annually within this market. We are excited about this new initiative as it has the potential to increase our current diversion.

Our plant in Springhill takes in 51,000 tonnes and we divert 32,000 tonnes of that. With this additional plant that could come on, that 32,000 tonnes represents about 3.2% of the total material recycled within the city of Ottawa. If we are able to attract our tonnage, which we know is out there, to this new plant we'll increase our total waste diverted for the city of Ottawa in this area up to 10% to 13%. When you think of that it's a significant contribution. The nice thing about it is that it's not only good for the environment but it also makes economic and financial sense. We're quite excited about that. That's a nice marriage when you can have something to divert this and take this material and reuse it and have it financially stand on its own.

That's what I've presented here today. Later on this week you'll get the information that I've presented here, which gives you more specifics. It breaks it down to the different components of how much we recycle.

● (1550)

The Chair: The bells have started.

You still have a minute and a half left. If I had unanimous consent to let you finish yours we can finish yours.

Do I have unanimous consent for a minute and a half?

Some hon. members: Agreed.

The Chair: Okay. You have a minute and a half. Proceed.

Mr. Michael Walters: I'm pretty well wrapped up here.

The most important thing is that this is technology that we started in 1997. We're excited about it. We're like a horse at the line. We're ready to take it down further. We're excited about that. We're talking about a technology that's been proven. We're talking about a technology that we have expertise in. To go out there and to make a difference on that 240,000 tonnes with this technology and increase that diversion from 3% to up to 13%, I think is a significant challenge. We're up for it.

Thank you very much.

The Chair: The figure that I find troubling is that there is only 3.3% being diverted currently.

Mr. Michael Walters: I'll make a clarification.

The 3.3% represents the Tomlinson portion only. The City of Ottawa diverts maybe about 50% of the recycling or the residential.

The Chair: I would have thought it was—

Mr. Michael Walters: The 3.3% is our portion, the little portion that comes into our plant. I want to take it up to 13%.

The Chair: We have a suggestion that we could take one more witness before we go. We have a half-hour bell but I'm at the will of the committee.

We need unanimous consent to go with one more witness before we leave. We need unanimous consent to proceed with 10 more minutes. We can all zip over there in 20 minutes.

Some hon. members: Agreed.

The Chair: Mr. Cardinal, you have 20 minutes—I'm sorry, 10 minutes. I was getting generous.

Mr. Douglas Cardinal (Architect, As an Individual): Thank you for inviting me.

I'm looking at what we're doing to our environment in general, which has always concerned me. I've practised architecture and planning for 50 years now, and I have worked a lot with the planning of communities and also with the indigenous people in the north.

The major concern I have is the fact that even in my lifetime—when I remember as a child in the west that I could swim in and drink the rivers and reach out and catch fish with my hands, and now all those rivers are polluted; they're nothing but sewers. So I ask, does what we're doing to the rivers, to the water, to our groundwater, what we're doing with landfill sites polluting our groundwater, not to mention the pollution of the land itself, make any sense?

We can't look at ourselves as separate from our environment, which we're doing. We feel that we're disconnected from our environment. There is us and there is our environment, but it's not so. We are part of our environment. You start polluting a river and you're polluting yourself and your children. You start polluting the environment and you're polluting your own body. We're passing on a legacy and a heritage to future generations that is very destructive to our humanity as a whole.

We should apply our technology and our thinking, we should apply our resources to cleaning up the mess that my generation has created, mostly, because it's happened in the last 50 years that we have really created so many problems with our environment, in the sense that we're feeling that internationally.

When I was working with communities up north—for example in the community Oujé-Bougoumou, a northern Cree village for the James Bay Cree—we were concerned about the amount of energy we were putting into that community. So, we used waste products from the plants to develop a boiler system and a district heating system throughout the community, providing hot water and hot water heat to every community, rather than using fossil fuels and oil that costs more and is more polluting to the environment.

There are other ways of using waste products, and one needs as much innovation as one can get, but it's almost like every time we come up with a new idea, instead of getting supported by government—and by the bureaucracies of government that have their own silos that don't talk to each other—it's very difficult to get any kind of support for any kind of innovation in the development and planning of innovative communities, and in innovative ways of solving energy problems.

I'm finding that we're not properly planning here in the south, but we're definitely not properly planning in the north, because in northern communities the environment is even more fragile.

● (1555)

You can walk across the tundra and come back five, six years later and your footprints are still on the tundra because the land is so fragile. If we want to develop the north in a harmonious way, in a way that doesn't destroy it, we have to change our habits in the southern part of the country because if we bring the mess that we are creating here to the north, it's even more devastating.

I'm so concerned about the fact that all of our systems, like our sewage systems, they all leak and they all pollute the aquifers. Under Ottawa, the whole groundwater is polluted by our sewage systems that are archaic, but we don't change these.

There are new technologies to develop even our sewage systems that are destroying and polluting the groundwater. The way we handle our sewage, with lagoons and everything, is so taxed sometimes because of the design of our sewage system, it runs into the lagoons. They open the lagoons, which overflow into the rivers and we pollute the rivers. All of our systems that we have need to be rethought and redesigned.

I've been working with Plasco for about 10 years since they first started. I think that is a wonderful solution, instead of landfill, to use that material for energy and not polluting the aquifers and the groundwater system.

Initiatives like that should be supported by the government because what we're doing is not at all economical. We say we're using this technology and that it is the most economical solution. The bottom line is: how much money and is it economical? It is not economical when you're creating so much damage to the environment, which you're going to have to clean up.

Up north, I was working with a community and they extracted copper out of that area and left a lake of sulphuric acid with a big fence around it and said, “Do not enter”. It would cost, I'm sure, $1 billion or $2 billion to clean that mess up. So, what are we doing, you see?

We have to rethink every technology that we're bringing up north. It doesn't make sense, in this archaic sewage system, to plan a whole community around the sewage system instead of the culture and the way that people should work and live together. It doesn't make sense to design a whole community around our anuses. We should be thinking of perhaps planning a community out of common sense.

We have to review these technologies. I'm always wanting to embrace technologies and petition new technologies in any project with which I am involved. For example, the Museum of Civilization that I worked on is geothermal and that was done 30 years ago, where we used the river water to heat and cool the building.

We need to embrace any technology and support any technology that cleans up the rivers and cleans up the earth because that is the legacy we should be passing on to our children.

● (1600)

The Chair: Thank you, Mr. Cardinal.

Perhaps in the questioning you could give us some concrete examples of what you are doing and have done in the north in this community you mentioned earlier.

My apologies to Mr. Nickel. We'll return in about a half an hour, hopefully. For the rest of you, we'll just suspend until we're done with the votes.

● (1600)

(Pause)

● (1640)

The Chair: We have a quorum, and we're going to begin with Mr. Nickel.

Thank you, Mr. Nickel, for your patience with us.

We'll give you a 10-minute opening round.

Mr. Trevor Nickel (Executive Advisor, BioWaste to Energy for Canada Integration Initiative): Thank you, Mr. Chairman.

Thank you to the committee members for allowing me the opportunity to speak before you today via wonderful technology. I haven't done too many of these video conferences, so please bear with me if I'm looking at you from the corner of my eye or something.

I'm here today representing the BioWaste to Energy for Canada Integration Initiative, BECii, for short. I'll refer to it as BECii throughout because the long form of the acronym gets a little cumbersome over time, but does represent what we're all about.

I want to touch on a few points in the 10 minutes that you've offered me here. I'll speak about the purpose of BECii, the facilities we've put together, as well as the member organizations inside BECii, to give a bit of a flavour of what the organization does, can do, and is looking to do in the future. I'll also speak about our vision for biowaste with regard to municipal solid waste and industrial waste.

I don't think I'd be letting the cat out of the bag, so to speak, too early, by saying that we have a vision in this space of making landfills obsolete. It's at least a three-part solution, but uses currently available technology that our members could offer, as well as many others in the industrial space.

BECii is a not-for-profit organization, founded by a number of companies. While it's not for profit, it's unapologetically commercial and targeted to enhance the commercial success of its members. The member companies who founded BECii recognized fairly early on that there is no silver-bullet technology for biowaste. Any comprehensive solution to municipal waste, IC and I waste, C and D waste, all of the waste streams that end up in a landfill, requires at least multiple technologies working together in order to handle them completely .

Now, we also recognize that many new discoveries and technologies occur when existing technologies are interfaced. The intersection or the boundary effect of technology is something that we wanted to work to further. Therefore, BECii exists to promote and facilitate the integration and intersection of technologies in this space. In order to do that, we had to bring together a number of companies, which I'll name, but we also had to bring together some facilities. BECii is a virtual and physical organization—virtual, in that we can span anywhere in the country and conceivably anywhere in the world, through projects that member companies are doing in the integration with each other just about anywhere.

We do have physical location, at the site of the first integrated biorefinery in Canada, which is about 20 kilometres north of the community of Vegreville, Alberta. Some of you may be familiar with it because our very large immigration claims processing facility is also in Vegreville.

What we've been able to put together physically on site is a $3.5-million building envelope, which was co-funded by Western Economic Diversification, the Province of Alberta, and the industrial members who formed BECii. It comprises a fairly large wet lab space, pilot plant space, machine shops, working space for those who wear suits, classrooms, boardrooms, and a larger, what we'll call, a campus space for additional pilot plants. That collocation with the existing integrated biorefinery—and I'll touch on that in a bit because a biorefinery is one of our members—allows eventual commercial-scale integrations right there on site, where people are familiar with it.

With regard to the BECii members, there are 10 current members. I'll list them off fairly quickly, but you can find the list on our website. I'll start with Algae Grow and Harvest Technology Incorporated, which works on improved algae productions. It sounds out there, but it uses the recycled nutrients from waste to promote the growth of algae.

Biomass Technologies Incorporated works on soil improvement products and novel ways of agglomerating materials together, so they're on the back end of the value chain. Emergent Waste Solutions is a pyrolysis-focused company. They are not looking so much at pyrolysis, but at the energy product that can come from pyrolysis, and also the high-value co-products that come from activated carbon and carbon black.

● (1645)

Ever Green Ecological Services is a waste collection company. They are involved in the design of superior, high-efficiency materials recovery facilities, or MRFs—you will hear in your study that acronym fairly frequently—as well as recycling.

Grow the Energy Circle Limited, a.k.a. GrowTEC, is a zero-waste agriculture organization with its own integrated biorefinery under construction. MacEwan University is an academic partner of BECii, and does a lot of analytical chemistry for the members. Growing Power Hairy Hill is our host site for the BECii facility as well as Canada's first integrated biorefinery. It comprises the largest anaerobic digester facility in Canada. It takes up to 300 tonnes of material per day. That includes 200 tonnes of municipal solid waste-derived organics per day into anaerobic digestion and produces a very large amount of biogas sufficient to produce electricity to power a collocated 10-million gallon or 40-million litre per year ethanol facility.

Both of these facilities are also collocated with a very large cattle feed lot, and all the waste products, as you might imagine, from one proceed directly into the next so there are no low-value co-products of that integrated biorefinery. We call it the virtuous loop.

I'm happy to be an investor in that facility, and my company, Himark BioGas, of which I am the general manager in my day job, provides the anaerobic digestion technology for that facility. Himark is also a member of BECii, and we focus on anaerobic digestion technology. Specifically our technology allows for easier processing of municipal solid waste, what we would call a "traditionally contaminated" waste stream.

Other members are Symbiotic EnviroTek. They work on bioreactors for algae production specifically integrated with biorefineries, and tighten clean energy solutions and other pyrolysis organization with a focus solely on the production of biochar not on energy. It sounds like a lot, and you can maybe get a sense that we're painting a picture kind of like Monet with little flecks of paint here and there, and hopefully it will come into focus.

The BECii vision is to make landfills obsolete. That means, as our first speaker spoke very well of, that the recovery of highest-value materials should go in the place where they have their highest use. Now, I want to make the point that energy is generally the lowest-value use—so straight incineration, combustion, that sort of thing, is very much less desirable than recycling and bringing things back in the clean materials cycle. So the materials recovery facility becomes a linchpin in any of these solutions where we can create a divergence of the waste stream and bring it into, let's call it, the three macro categories.

Our three macro categories are organic, fresh, and MSW. So the organics are the stuff that will rot. For the recyclables, it should be obvious they have value; and "combustibles". We like to see combustibles go to partial combustion, which is gasification or pyrolysis because of that low value of energy. You can get rid of stuff through gasification and pyrolysis, but you also get a higher value co-product coming out of it either char, activated carbon, or carbon black. These things are highly valuable.

Going back to organics, it shouldn't be a surprise you can recover energy in a renewable dispatchable form, reduce emissions both directly and from offsetting, and put some recalcitrant carbon leftovers to higher use. So there is a bit of recycling even in anaerobic digestion.

Most importantly we reduce the bad actors with anaerobic digestion, so you take away the odour, the ooze, the disease, and the pest animals such as rats, seagulls, and cockroaches from the equation. This allows a repositioning of waste management as a true commercial business, bringing it into the forefront rather than over the horizon where it has traditionally been forced to go.

There are some laudable policies out there. In my last 20 seconds I'll just talk about laudable policies that we can look at: landfill bans for organics or for other materials, as well as carbon pricing, as well as working very hard with antitrusts to promote competitive marketplaces in this space.

Thank you very much, members.

● (1650)

The Chair: Thank you very much, Mr. Nickel. You're well within your time.

Considering the fact we did lose a bit of time for the votes, I'm wondering if committee members would agree to reduce our first round to five minutes so we get more questioners in.

Some hon. members: Agreed.

The Chair: I'll move to five-minute questions.

On that you're first, Mr. Sopuck.

Mr. Robert Sopuck (Dauphin—Swan River—Marquette, CPC): Thanks.

Mr. Chiasson, I was interested in your comment that if we got the policy right, we could get energy from waste. Could you briefly describe specifically what you would like from government in terms of policy?

Mr. Edmond Chiasson: The model that I referenced, that I think is the most comprehensive and the most up to date right now, is in the U.K. What they're doing in the U.K. is supporting, in our particular case, a higher price for electricity to support innovative systems as opposed to proven systems. They basically have a power-pricing regime. For example, if we generate electricity with our system, we get, say, 18¢ per kilowatt for power as opposed to traditional incineration where you get about half that.

The whole idea there is that you take the capital risk up front and you take the technology risk, and if you can produce additional electricity, because you believe your system is superior, they'll give you an incentive at the back end.

Now, some of that is happening in Canada, but not a lot. At provincial levels, the Ontario government has participated in that.

One possibility would be for the Government of Canada to consider participating in that as well, because the incentive is at the back end. I think the thinking is that eventually, as the technologies are proven and commercialized, the incentives can be reduced over time.

That's the most well-known model, I believe.

Mr. Robert Sopuck: What you're advocating for, then, is for governments to artificially raise the price of electricity for the electricity produced by facilities such as yours. I appreciate your frankness.

One of the things about recycling—and I say this about many environmental policies that are promulgated out there—there is too much religion and not enough math. I want to talk a bit about the math of recycling, because to me that's all that counts.

Mr. Nickel, you're an advocate of eliminating landfills and recycling. You made a comment, and I wrote it down here. You said that recyclables all have value. I would dispute that in terms of the word "all". What if a recyclable has no value, do we recycle at any cost?

Mr. Trevor Nickel: Thank you for your question, Mr. Sopuck, and for the opportunity to clarify.

The recyclables that I'm referring to in the context of an integrated biorefinery are only those recyclables that have value. A recyclable that has no value, or a negative value, isn't a recyclable; it's a waste. By consequence, we have to find other things to do with those.

The baseline thing to do with something that has no value is to combust it. If it's non-combustible and has no value, I would question whether or not it has been taken apart into small enough pieces.

Mr. Robert Sopuck: Of course, if we take a commodity such as I'm holding in my hand right now, glass—and you can't see it—it's a completely inert substance composed of sand and soda ash, two materials that the world is clearly not short of. If it is put into a landfill, there is no leachate from glass and it happens to be a material that's very difficult to recycle. It's heavy and it costs a lot of energy to move around.

Mr. Nickel, what's your answer for glass?

Mr. Trevor Nickel: It's pretty easy to recycle that into road crush. It's very difficult to recycle it back into glass.

Mr. Robert Sopuck: Right.

Mr. Nickel, what has the shale gas revolution done to the economics of the production of energy from waste in facilities such as yours?

Mr. Chiasson, you may want to weigh in on that particular one, because the shale gas revolution has brought the price of natural gas down considerably. My guess is that it puts pricing pressures on your industries. Is that a fair generalization?

● (1655)

Mr. Trevor Nickel: Since I still have the floor, sir, I would say that is absolutely the case. It has been very difficult to promote the use, especially of our anaerobic digestion technology, which produces a very competitive product to natural gas over the last several years, since 2008. On the other hand, there is a silver lining there. The use of natural gas for a large number of uses is on the upswing. The pricing forward curve for natural gas, as you may well know, is also trending up. So there are more uses. People are more used to using natural gas, and now we are producing a competitive product that we have had to hone over time to make it more competitive.

It also has some in-body characteristics that people like. You may wish to barbecue with renewable natural gas now. You may not, but you're only going to get methane either way, but it's definitely very possible to make use of that broader marketplace that has happened because of the low prices.

The Chair: Thank you, Mr. Nickel.

Thank you, Mr. Sopuck.

Our time is up on that.

We'll go to Mr. Choquette, please.

[*Translation*]

Mr. François Choquette (Drummond, NDP): Thank you, Mr. Chair.

Before I ask my questions, I would like to say that the motion before us pertains to the management of municipal solid waste and industrial materials. The committee doesn't clearly state that the jurisdiction has to be federal, and since there is some ambiguity around the questions we'll be asking, I would like to propose the following motion. It will ensure that the study deals with issues of federal jurisdiction. We wouldn't want to waste any time on matters that aren't.

My motion reads as follows:

> That the Committee undertake an eight (8) meeting study on the management of waste, and other areas, under federal jurisdiction. This study will focus on (a) technological innovation in such management; (b) the best practices of the federal authorities; (c) the management of nuclear waste; (d) the extended producer responsibility (EPR) policy; (e) the polluter pay principle; and the Disposal at Sea Regulations in relation to the Canadian Environmental Protection Act, 1999.

The polluter-pay principle is quite important, by the way. Mr. Nickel talked about it today.

I think this motion would be more appropriate, as it would ensure that we focused on matters of federal jurisdiction.

[*English*]

The Chair: Committee members, we have agreed to a previous motion, that's why we're meeting in committee right now. However, Mr. Choquette presented his motion on May 12, so it's in order to consider the motion to extend the mandate of this current study. I'm going to ask for comments or questions on the motion.

Mr. Woodworth.

Mr. Stephen Woodworth (Kitchener Centre, CPC): I have a point of order.

My understanding and recall in this committee is that when we are asked to determine motions of this sort, which touch on committee business, that we do so uniformly in camera.

[*Translation*]

Mr. François Choquette: It's not mandatory.

[*English*]

Mr. Stephen Woodworth: I hate to do that. I'm sorry that we have a situation where we are interrupting witnesses, but if I'm right that this is our practice, I would not want to depart from it in this case.

The Chair: It is our practice, but I don't think there's any rule to that effect.

[*Translation*]

Mr. François Choquette: We don't have to go in camera.

[*English*]

Mr. Stephen Woodworth: Mr. Chair, if it takes a motion then I'll move that we go in camera.

The Chair: It's a motion to go in camera.

All in favour of that motion?

[*Translation*]

Mr. François Choquette: I would like a recorded vote.

We don't have to move in camera to vote on the motion.

[*English*]

The Chair: We're had a request for a recorded division to move in camera.

(Motion agreed to: yeas 5; nays 4)

The Chair: We'll go in camera.

Hopefully, witnesses, we'll only be four minutes, but there are no guarantees. If you'll just leave the room for a few minutes and stay nearby, it's my hope that we can reconvene.

[*Proceedings continue in camera*]

● (1655)

(Pause)

● (1700)

[*Public proceedings resume*]

The Chair: Order, please.

Mr. Choquette, you have three minutes and 25 seconds left.

[*Translation*]

Mr. François Choquette: Thank you, Mr. Chair.

I want to thank the witnesses for their input.

My question is for Mr. Cardinal.

In your view, what exactly is the federal government's role in the management of municipal solid waste and industrial materials?

[*English*]

Mr. Douglas Cardinal: I feel that the government, in a sense, is there to protect the interests of the public and to set certain standards that I feel are high standards in terms of the way we conduct our resources, the way we manage our resources. I feel very strongly that we should be looking at the resources a little differently than we do. The earth is like a store that's filled with inventory, and it doesn't make any economic sense to continually sell your inventory without concern for the limited resources that we have in our environment.

With the concern about how we create systems—sewage systems, landfill systems, garbage disposal—and how we affect the air, the water, and the earth, I think that we should set certain standards. I see that recently President Obama was setting certain standards for their concerns about their environment. I think that's an initiative that the government is taking and we should be doing the same in Canada.

● (1705)

[*Translation*]

Mr. François Choquette: Unless I'm mistaken, you'll make a recommendation to the committee, as part of this study, that the federal government's role should be to adopt very high standards, a bit like Mr. Obama recently did, with respect to air, land and water protection. Those are areas that fall under federal jurisdiction. Generally, the government is responsible for the environment, if my understanding is correct.

Would that be one of your recommendations?

[*English*]

The Chair: Mr. Choquette, your time is up.

We're going to move now to our next questioner.

Mr. Douglas Cardinal: Yes—

The Chair: We're going to have to wait for a response on that until the following question.

Mr. Toet, you have five minutes.

Mr. Lawrence Toet (Elmwood—Transcona, CPC): Thank you, Mr. Chair.

I want to start my questions with Mr. Walters. Mr. Walters, you talked about environmental protection in your diversion and also the economic viability of that. I'd like you to expand on that a little bit. How is that actually working out in a very, for lack of a better term, concrete way, because I know that's part of what you're dealing with as you do your recycling? How are you working through that process? How are you finding that working on the waste that you are diverting?

Mr. Michael Walters: Sorry, what was the first part of your question?

Mr. Lawrence Toet: Well, it's from the environmental aspect but also the economic aspect. You talked about the two of them working hand in hand.

Mr. Michael Walters: On the environmental side, of course the operation has to be environmentally sound. We take all of the steps we can to safeguard the environment, even as to where our plants are located, as to what vehicles are coming to the site, as to the actual equipment itself and how it is looked after from a practical point of view, and as to protection of the groundwater and surface water from any of our operations, from our stockpiles of material that would go out.

That is paramount. It is part of complying with the Ministry of the Environment certificate of approval that we have to operate under, as well as with the local city by-laws.

From an economic point of view, we pursue those markets that are viable. We have gone through the tough times, but the products that we pull out of the C and D stream are products that can be readily used and for which there is a need all the time, such as granular material for road building, wood in the agricultural industry—they need a good portion of it—or biomass material on the energy side of it. Then there is cardboard—OCC, or old corrugated cardboard—Sheetrock, or gypsum.

Then we do other things. We have a new process that we're putting in right now that will take 70% diversion. I want to clarify that we divert 70% of the product that comes in. We're going to take that up to 85%. We have a technology that is going to do that for us.

So it's a good marriage of protecting the environment but also of markets that we pursue. It hasn't always been easy, but we've been able to succeed so far.

Mr. Lawrence Toet: When you say that you have markets that you pursue and that you are going up to 85% diversion, are you implying that you are looking at specific areas from which you are collecting waste or at specific types of waste so that you can make that number as high as you have it? Or are you taking, in a particular area, any waste that goes with it?

Mr. Michael Walters: I'm saying in our presentation that there are more than 240,000 tonnes of C and D within this market. I'm only handling 51,000 tonnes of it right now. My certificate is limited to that. I'm going to build a new plant and I'm going to go after another 100,000 tonnes. So in total I'll be taking 150,000 tonnes out of this market here in Ottawa.

The nice thing about this is that if 24% of the waste stream in Ottawa is C and D material, quite frankly, other markets will be very similar.

Mr. Lawrence Toet: My question is this, though. Are you picking and choosing what C and D material you take, or are you taking everything from a site?

Mr. Michael Walters: No, I take everything. The issue here is that when you're building a house, you don't have the ability to keep separate cans around the property. You can't have a 40-yard container for wood and a 40-yard for all of the different materials. In putting it into my process, you put it all into one can and let us do the separation at the plant.

That's what our plant is all about, mechanical and actually human separation. I have sorters down there and I have the mechanical separation—the combination. Approximately 30 tonnes per hour will go through our plant and be processed.

Mr. Lawrence Toet: Is your space really the residential and construction area, or is it broader than that?

Mr. Michael Walters: It's broader than that. I'll take residential for sure—new home building, all of the new developments that we have around here with the different developers, such as Mattamy and others. They come to us.

We become involved in the LEED program. We give reports to people such as the big developers who want to know how much of their material is diverted. We give them that information as well.

This market right now in Ottawa will be a good taste. In the next year, we'll be able to take another 100,000 tonnes of it. With the technology we're developing, we can take it to another market as well, but right now we're going to put our hands around the Ottawa market.

● (1710)

Mr. Lawrence Toet: Thank you.

Mr. Nickel, are the technologies you're working with through BECii also, for the most part, self-sufficient in their economics, or is there a lot of subsidy required for all of them, some of them, or any of them?

The Chair: Can we have a quick response?

Mr. Trevor Nickel: I can't speak to all of them, not being directly involved with all of them. But certainly the ones I'm fairly versed in are profitable on their own, and I wouldn't be involved in a company that isn't. But it's far easier to make profit if you throw stuff over the fence than if you take care of your own problems.

The Chair: Thank you very much.

We'll move now to Mr. McKay for five minutes.

Hon. John McKay (Scarborough—Guildwood, Lib.): Thank you, Chair, and thank you, all, for your patience.

Mr. Cardinal, I hope somehow or another that the researchers are able to work into the report the phrase “community planning around your anus”. It seems to me it might even be a title for the report.

Some hon. members: Oh, oh!

Hon. John McKay: Mr. Cardinal, I've just been looking at you on Google, and I'd encourage colleagues to look at Mr. Cardinal on Google. Some of the buildings you have designed, including the Museum of Civilization, now the Museum of History, are stunningly beautiful.

I only suggest in half jest that somehow or another you've done some thinking that's way deeper than the rest of us about how to design so that you are not creating construction waste unnecessarily, that you are not creating unnecessary pollution of some kind or another. I'd be interested if you could just share in a minute or two your thinking about how you design a building, and how that could help people like ourselves, who have no architectural background, think about how to create space.

Mr. Douglas Cardinal: What I have felt through experience is that you never solve problems from the top down. You always solve problems from the bottom up, working with the people who you're serving. Nobody asked the doctor or head surgical nurse how to design an operating room, or a teacher or the kids in the classroom how to design a classroom. So we're always imposing overall systems on the problem without really concerning ourselves with the people we're serving. In every building I've designed, I've started from the user, from the people themselves, and asked them what their needs are, what their priorities are.

It's all about respect. People want spaces to inspire them. People want beauty in their lives. People want harmony and balance. People want to be surrounded by environments that are inspiring, environments they want to bring their children up in. I don't think we're listening to people enough in the whole planning process and how we serve them in terms of all the technology that we create.

All my work is involving the people themselves in the planning process. I feel that in what we're doing in the planning of our cities and the planning of our environment, we're not thinking about, definitely, women bringing up children in the environments that we create. I think that we have forgotten about loving and caring for each other, and loving and caring for our environment. I think that if we think of laws—federal laws, many laws, provincial laws—if we harm each other, then we have to accept the penalty for doing so.

But what are we doing with the technologies we're creating? We're harming each other with them, so there should be certain concerns that society has about harming each other with the technologies we've created. I would like to feel that we should contribute to people's happiness and beauty and develop a future for our children that is loving and caring, rather than just being concerned about today and only thinking of how we can create the bottom line today to make a profit, but leave such a disaster behind us that the future generations have to pay a heavy price to clean it up.

● (1715)

The Chair: Thank you, Mr. Cardinal and Mr. McKay.

Monsieur Morin, you have five minutes.

[*Translation*]

Mr. Marc-André Morin (Laurentides—Labelle, NDP): My question is for Mr. Nickel.

Part of the problem around measuring the value of recycled waste materials, is that it's important to consider more than just the value. My colleague gave glass as an example. If you measure the value of a cracked glass that ends up in a garbage bin, it certainly isn't much. But if you measure its actual value, you realize that the materials used to make that glass, through silica and phosphate extraction, could represent hundreds of kilograms of raw materials that were processed and crushed up.

Shouldn't we start to think about that? Consider a 200-kilogram bulldozer battery that gets thrown out. How much does the lead ore that was processed to manufacture the battery weigh? That's something we should think about.

What is your take on that?

[*English*]

Mr. Trevor Nickel: We get into the discussion on embodied energy when we start talking about that aspect of recycling fairly quickly. I'm sure we're all aware that the material in front of us is just the end use of the value chain. If there's nothing wrong with it, then it becomes a very deep philosophical and social discussion about whether or not we should throw it out.

I'm not sure we're here to discuss that, but I would completely agree with Monsieur Morin on that.

[*Translation*]

Mr. Marc-André Morin: I'd like to ask Mr. Cardinal a question.

Do you think it would take a cultural shift to start viewing the environment as something that demands greater respect? For instance, when the conquistadors landed in Mexico City, it was the cleanest city in the world, apart from a few stains at the top of the pyramids. People could walk around barefoot the city was so clean. Cleanliness and order was so important it could have been considered a local religion. Today, the city's dumping ground is so vast that it takes 23 hours to walk from one end to the other.

What are your thoughts on that?

● (1720)

[*English*]

Mr. Douglas Cardinal: I do believe that we have to have a cultural shift. When we believe, biblically, that we're dominion over nature, that is our problem, because we're not dominion over nature. We are nature. We're human animals that evolved from nature.

If we look at it in that way, if we look at all life as being sacred and that there is life all around us in every living thing, if we feel connected to all life on this planet, as a cultural shift, then we would not destroy our brothers and sisters, which are all the animals, the birds, and the fish.

We need to understand that, egotistically, we're not above our environment. We are our environment. You can't separate us from the air. You can't separate us from the water. We're 98% water. You can't separate us from the earth.

The shift that we have is that we believe that we are separate. We are dominion and we're not. We should walk more humbly on the earth and realize we affect all life with our every act.

The Chair: Okay, thank you very much.

We'll move now to Mr. Storseth, for five minutes.

Mr. Brian Storseth (Westlock—St. Paul, CPC): Thank you very much.

Mr. Cardinal, you made a couple of comments I just wanted to follow up on with regard to the announcement by the Obama administration. I was just wondering if you were familiar with changes that our government has already made when it comes to the coal-fired electricity sector?

Mr. Douglas Cardinal: Yes, and I think every change that respects the environment is a real concern for our future generations.

Mr. Brian Storseth: You are in agreement that it's a good idea for Canada to phase out its coal-fired electricity plants in the near future.

Mr. Douglas Cardinal: Well, anything that preserves the air—I'm thinking of my great grandchildren. I would hope my generation would create an environment for them so that they can breath the air and not get illnesses or diseases from the pollution we're creating.

Mr. Brian Storseth: Thank you very much, and thank you for your testimony today.

Mr. Nickel, I actually had a question for you. Can you hear me?

Mr. Trevor Nickel: Go ahead.

Mr. Brian Storseth: Perfect. I was hoping you could share with us a little bit about the role the government has and could play in the investment your company is making and some of the research and development it has taken to get to this stage. I've been there, and it's quite an interesting project.

Mr. Trevor Nickel: Thank you, sir.

Absolutely, when you're dealing with technology that's perceived as new, the capital community, as you may well know, applies a heavy premium in terms of risk. That means that money gets very expensive and sometimes that expense is out of reach for the development of projects based on new technology.

So any assistance that removes the risk or perceived risk from the capital community, or takes the place and takes some of that risk away from the capital community, is where we see and have seen and have been the beneficiaries, multiple times over the last decade, of assistance from all levels of government.

I hope that answers your question. We're talking about capital assistance. We're talking about research and development funding, and we're talking about specific policy instruments that enable certain aspects of what we're doing to have things done a little bit better, a little bit more cost effectively. One I would personally advocate for is carbon pricing.

Mr. Brian Storseth: One of the things we've been looking at is some of the different models. For instance, my colleague often refers to the land use framework out in the County of Vermilion River. Could you talk to us a little bit about the role that the Government of Alberta has played, and as well, the municipal level, in your project?

● (1725)

Mr. Trevor Nickel: The municipal level was actually really important in the initial stages of development of the biorefinery project. Without the municipal involvement, not a lot of the forward motion would have happened initially. They have purchasing power, so they were able to say, “Hey, let's just buy some of this electricity”. They didn't buy it at a huge premium, but they bought it, which allowed some of the funding to flow from the capital side. There was less market risk presented, thanks to the municipalities.

The province has been absolutely instrumental. Over the last decade they had some programs, first under agriculture and now in the Department of Energy. They're all sunsetting on March 31, 2016, but they are absolutely instrumental in getting the $100 million on the ground at the Growing Power Hairy Hill facility as well at the BECii collocated facility. The provincial government came forward with close to one-fifth of that, if my recollection is correct.

Mr. Brian Storseth: Would you say that these projects have put Alberta on the cutting edge?

Mr. Trevor Nickel: I'd say they put Alberta a step further forward than it was. Technology-wise I can speak very clearly for Himark. In 2008 Himark was the world leader in technology for anaerobic digestion. We remain at the head of the pack, and that is thanks very much to the help that we have gotten over the years.

Mr. Brian Storseth: Excellent.

How much time do I have left?

The Chair: You have 15 seconds.

Mr. Brian Storseth: Okay, thank you very much.

The Chair: Okay, we can move, for our last question, to Mr. Choquette, for five minutes, please.

[*Translation*]

Mr. François Choquette: Thank you, Mr. Chair.

I, too, will be addressing Mr. Nickel.

I think the federal government, in dealing with waste management, should start asking some questions about the polluter-pay principle, which, by the way, is part of sustainable development management. Unfortunately, we don't have any sustainable development legislation, but we do have a strategy at least.

You talked about the polluter-pay principle and the price of carbon. President Obama stressed the importance of a major shift when it comes to tackling climate change and adapting accordingly.

You mentioned a price on carbon, but what exactly are you proposing?

[*English*]

The Chair: Mr. Nickel.

Mr. Trevor Nickel: Put very simply, there needs to be a price on carbon. Whichever instrument we use to do that is less important than its actual implementation with aggressiveness and ferocity. What we do by talking about it is create a policy risk in the eyes of the capital community, if we have endless debate about it rather than any action, even flawed action. So let's move forward, if I can encourage us to do that. Thank you.

[*Translation*]

Mr. François Choquette: Thank you kindly.

So it could be one of your recommendations to the committee as part of this study.

Mr. Chiasson and Mr. Walters, what do you think of the polluter-pay principle? Do you support it? How could it be applied in a way to help you manage waste?

[*English*]

Mr. Edmond Chiasson: Speaking for our company, Plasco, I think what Mr. Nickel has expressed is actually where we need to begin. There needs to be a step forward to recognize that we need to deal with greenhouse gases. I think what specific instrument is chosen is secondary. We know, in our particular case, with landfill and methanes, you potentially replace a fossil fuel in terms of energy generation, so in the early stages of new technology, where the technologies are being commercialized, creating jobs and investment, those programs are in place.

If I can, I'll make one additional short comment. I think in our case we sometimes wonder in terms of government operations themselves. When you think of the Government of Canada and all of the waste that's generated from government operations and buildings, could there be some interest in looking at where that waste goes today? I think a possible leadership role might be whether the government can serve as a role model in somehow making sure that there's as much recycling of those materials as possible, possibly energy generation from residual materials, to show that there's a model that can work in terms of government operations themselves. That's something to maybe think about.

[*Translation*]

Mr. François Choquette: Thank you.

What about you, Mr. Walters?

[*English*]

Mr. Michael Walters: The only thing I would add to that is that the discussion so far has been about the role of the federal government or other governments. I say, quite frankly, the challenge ahead of us is really for us to hit our targets, whatever they may be. In my area, that's waste diversion initiatives. It's going to take a collaborative effort.

I think the federal and provincial governments and all the other governments and other stakeholders are an integral part of this whole, creating the vision right down to the point of implementation. There's no sense of me going off into a corner and doing my thing and going to you after. I need your input now. I need your input ahead of the curve. I want to have your input and I want to have you as part of that group that helps me, helps us as a community, shape the vision and talk about the implementation strategy.

● (1730)

The Chair: All right.

I want to thank all of the witnesses for your time and for your patience with our system here with the votes being called in the middle of our committee.

Thank you to our committee members for your questions.

Again, thank you, especially to Mr. Nickel from the west.

The meeting is adjourned.