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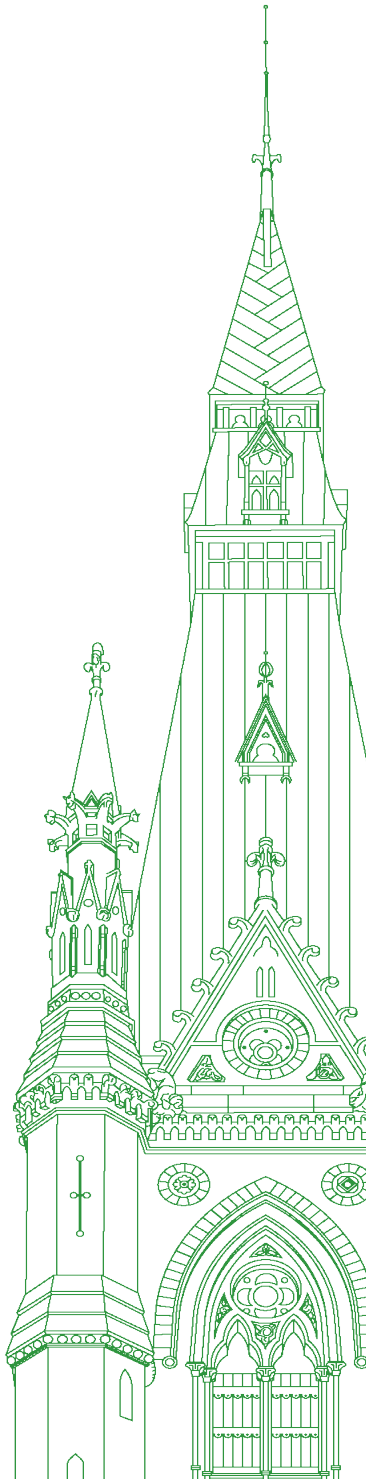

Chair: Ms. Valerie Bradford

Standing Committee on Science and Research

Thursday, October 3, 2024

● (1535)

[*English*]

The Chair (Ms. Valerie Bradford (Kitchener South—Hespeler, Lib.)): I call this meeting to order.

Welcome to meeting number 100 of the House of Commons Standing Committee on Science and Research.

Today's meeting is taking place in a hybrid format. All witnesses have completed the required connection tests in advance of the meeting.

I'd like to remind all members of the following points.

Please wait until I recognize you by name before speaking. All comments should be addressed through the chair. Members, please raise your hand if you wish to speak, whether participating in person or via Zoom. The clerk and I will manage the speaking order as best we can.

For those participating by video conference, click on the microphone icon to activate your mic, and please mute yourself when you are not speaking. There is interpretation for those on Zoom. You have the choice, at the bottom of your screen, of “floor”, “English” or “French”. Thank you all for your co-operation.

Pursuant to Standing Order 108(3)(i) and the motion adopted by the committee on Thursday, May 23, 2024, the committee resumes its study of innovation, science and research in recycling plastics.

It's now my pleasure to welcome, as an individual, Dr. Steve Allen, chief executive officer of Healthy Earth. He's here by video conference. Also here by video conference, from the Canadian Produce Marketing Association, we have Daniel Duguay, sustainability specialist.

You will have up to five minutes for opening remarks, after which we will proceed with rounds of questions.

Dr. Allen, I invite you to make an opening statement of up to five minutes.

Dr. Steve Allen (Chief Executive Officer, Healthy Earth, As an Individual): Thank you for the opportunity to speak with you.

I study microplastic and nanoplastic pollution in the remotest areas of the globe. I showed plastic transport through the air, falling into the oceans and ejecting into the air through sea spray. I studied peat bogs that showed microplastics started raining down the early 1970s and have increased ever since, exactly matching plastic production. I find particle numbers grow exponentially the smaller you look. In Canada, I've studied plastic deposition from hurricanes and in seafood.

I mention this because all these measurements were made while everyone thought we were recycling. Canadians doing the right thing has little impact on their exposure to plastic, and it makes no difference if it's recycled, landfilled or incinerated. It leaks from its manufacture through to its end of life, and it's a global problem.

That drinking water in front of you contains plastic. Every glass of water on the planet does too. I'm certain that if I measured what plastic you're exposed to now—in water, food and even the air you breathe—it would be the lowest exposure of the rest of your life. If you manage to mechanically recycle 100% of Canada's waste tomorrow, it would likely only increase that.

There's so much plastic in the environment already that it's doubtful your grandchildren will ever enjoy the exposure level you have right now. They're exposed from placental serum to breast milk, and it's rapidly increasing. How much plastic can humans withstand? I don't know, but I worry that by the time we find out, it will be too late to do anything about it.

The plastics industry has had 50 years and an almost unlimited budget to develop recycling. It built the plastic. It knows the chemistry. If anyone could do it, the plastics industry could, but even Shell's advanced recycling pledge recently failed. Shell said it was not feasible and cited regulatory shifts.

Mechanical recycling plants themselves are leaky. I studied a new state-of-the-art recycling plant in Scotland, where 6% of the plastic that went in was leaking out as microplastics into the river. It recycled four million tonnes and released over 200,000 tonnes of microplastics and an unfathomable amount of nanoplastics. That does not even take into account the atmospheric release from recycling, the energy required or the risk of serving children french fries in recycled plastic that contains any of 16,000 chemicals.

The recycling expert witness you had here admitted you're not recycling anything now; you're only downcycling into inferior products. Making building materials out of it just means adding toxic flame retardants, PFAS, which are already in all of us.

I'm not saying that we should not look into recycling highly essential items, but I can't see the logic for governments to spend public money to keep this hazardous material in circulation.

Waste plastic is not a valuable resource. It's the equivalent of capturing lead to put back into fuel or recycling asbestos into more roofing. Scientifically and environmentally, for human health and climate change, and even economically, it does not make sense to recycle the majority of plastic. There are plenty of good alternatives that will create a true green-jobs economy if extracted, produced and reused safely and sustainably, such as glass, metal and plant-based materials, like areca palm and bamboo, etc. Governments can eliminate the cost to municipalities and consumers in the transition to these better alternatives by diverting a fraction of the subsidies now enjoyed by the plastics industry to safer and more sustainable materials.

We're not just dealing with plastic waste here; we're dealing with a global environmental and public health crisis. When you stop asking how much plastic the world can create without killing too many whales and instead look at how many organisms, including us, can be affected by the disintegration of a single plastic bag, you begin to understand the gravity of the situation. We are involved in an extremely dangerous experiment, and every day lost by investing in a profit-driven, short-term technofix to save the plastics industry is time wasted. There are no borders in nature. If Canada wants to protect the health of Canadians and the environment, Canada needs to do more to solve the global problem of plastic pollution right now. In short, you're addressing the wrong end of the plastic life cycle if you want to safeguard people and the environment.

● (1540)

The people who can solve this problem are in this room. You are the people who can regulate the plastic industry; curb production; make Canada a green economy powerhouse, not a pollution enabler; require disclosure of chemicals used; police the industry; make industry prove it is environmental before being put on the market; criminalize greenwashing; fund research into removing plastic from farm to table and fund global—

The Chair: Dr. Allen, that's over time. You'll get a chance to finish your remarks, I'm sure, with our questions.

Dr. Steve Allen: Thank you.

The Chair: I'd now like to turn to our second witness.

Mr. Duguay, you have five minutes, please.

Mr. Daniel Duguay (Sustainability Specialist, Canadian Produce Marketing Association): Madam Chair and committee members, on behalf of the Canadian Produce Marketing Association and Canada's fresh fruit and vegetable industry, I thank you for the opportunity to appear before you today.

The CPMA is in a unique position as an organization representing companies from the farm gate to the dinner plate, spanning the entire fresh produce industry. CPMA's almost 900 domestic and international members are responsible for 90% of fruit and vegetable sales in Canada.

Canadians rely on a highly integrated domestic and global fresh produce supply that supports Health Canada recommendations for a healthy diet. The fresh produce supply chain moves a wide variety of perishable products over long distances in a way that ensures that Canadians have access to safe, high-quality and affordable fruits and vegetables year-round.

Packaging, including plastic packaging, is essential to maintaining the availability, quality and safety of fresh produce from the farm to the fork. The critical role played by packaging can be summed up in two phrases. The first is that packaging does 95% of what it does before it even reaches the consumer, and the second is that a produce packaging decision is a sustainability decision.

What do these statements mean? They seek to convey that ensuring food safety, minimizing food loss and waste, maximizing supply chain efficiencies and meeting produce traceability requirements all depend on the shape and composition of the packaging. However, here’s where the complexity grows. What else depends on the shape and composition of the packaging? It's the ability to keep the packaging out of landfills and meet the zero plastic waste goals both governments and industry have been pursuing for many years.

To ensure that packaging provides the required functionality and is also kept out of landfills and the environment, the industry now designs packaging that meets mission-critical performance that vendors and consumers have come to expect while accounting for the packaging’s end of life. The fresh produce industry is a leading adopter of sustainable packaging strategies. These range from lightweighting packaging and innovative elimination, such as edible coatings, to significant reuse volumes for business-to-business packaging. It has also increased the use of packaging that is both recycle-ready and increasingly recycled.

The CPMA launched its packaging working group in 2019, and the fresh produce industry endorsed the golden design rules in 2020, leading to many new designs eliminating problematic elements, moving from mixed composition to single material, as well as incorporating increased levels of recycled content when that recycled content does not compromise the performance of the packaging, such as with food contact. Substitution of alternative materials, such as fully recyclable fibre packaging or industrially compostable solutions, is being adopted where the packaging performance and function is not compromised.

These efforts are having an impact. A recent review confirmed that the fresh produce industry’s plastic usage in packaging was down 17% since 2019 when measured by the volume of material used per kilogram of food.

The diversity of fresh fruits and vegetables—the quintessential apples, oranges and bananas problem, as we like to call it—means that packaging for one commodity will need to be different from that for another. For many commodities, there are no viable alternatives today to plastic packaging that would not compromise food safety or increase food waste, cost or insecurity.

As stated, a key challenge in designing packaging for zero packaging waste is accounting for the end-of-life infrastructure, be it plastics recycling, composting or other recycling infrastructures. Although today's discussion focuses on plastics, the goal should be to ensure that packaging choices, when combined with waste management systems, keep all packaging waste out of landfills.

To do this effectively, the following areas of innovation should be considered.

First, we should account for differing materials. Waste management systems must deal effectively with different types of materials, including, in our case, rigid and flexible forms of plastics and other materials.

Second, we should consider serving different downstream applications. Recycled content resulting from waste management systems must serve very different needs, such as those requiring food contact versus those that don't.

Third, we should promote harmonization. What is readily recyclable in one area may not be in all others. This lack of harmonization across multiple jurisdictions is one of the leading challenges for effectively designing packaging's end of life.

To close, I'll comment on a few related points.

The CPMA supports extended producer responsibility. However, there is significant concern that the rapid pace of massive cost escalation is unsustainable. This cost should not be borne by producers alone. We need waste reduction targets that are ambitious but achievable, and that respect the critical functionality that packaging provides.

To tackle this complex system-level problem, we need engagement from multiple federal players working in tandem with industry, along with their provincial counterparts.

On behalf of the fresh produce industry, I thank you for the opportunity to share comments and I welcome any questions the committee may have.

● (1545)

The Chair: Thank you, Mr. Duguay.

We'll now begin our six-minute round of questioning. We'll start that off with MP Kitchen.

You have six minutes.

Mr. Robert Kitchen (Souris—Moose Mountain, CPC): Thank you, Madam Chair.

Thank you to the witnesses here today. I appreciate your being here with us and the chance to hear your points.

We've heard, over a number of weeks—at least in my short time with this committee—from many different organizations on different aspects. When a lot of the Canadians listening today hear "plastic", they just hear "plastic". That's the only thing they hear. They don't understand the differences between bioplastics, virgin plastics, etc.

Mr. Duguay, today you mentioned the aspects of packaging and the different types of packaging. You touched a bit on different points, whether these might be regarding virgin plastics—I'm going to throw that at you—or biopolymers. These are things Canadians really don't understand. As you mentioned, when they go to that market and see their bananas or cantaloupes wrapped in plastic, or whatever it may be, they assume those plastics are exactly the same.

I'm wondering if you could comment on that.

Mr. Daniel Duguay: I think that's one of the challenges. Not all plastics are created equal. Again, in our industry, we rely significantly on a subset of plastic materials. One example is the PET resin that's used commonly in water bottles and food applications. It's used extensively as a rigid plastic, notably for produce clamshells.

There are other forms of plastic used—more flexible forms. An example that is pretty critical to our industry is modified atmosphere packaging. Those are the bags you see used for salad. It's a fairly complex construction that controls the environment within the bag to make sure the food doesn't spoil rapidly and maintains quality. These are examples of how we rely on a set of different materials, which, from the consumer point of view, may appear to be the same but are actually quite chemically different.

Mr. Robert Kitchen: Is the cost of those plastics quite variable in range? That's obviously going to add to the cost for the consumer.

Mr. Daniel Duguay: I'd say that definitely the cost of the more common materials—PET is probably what I would call the "workhorse"—is not comparable to that of a more high-performance material like the ones you'd see for modified atmosphere control. This is an issue that's very cost-sensitive. Obviously, cost is a big factor in the choice of material.

How that plays out, for example, is in the incorporation of recycled content. There are definitely cost differences between virgin material and recycled-content material on the market, which play into decisions about how much recycled content can be incorporated. That's an example of how cost plays out.

Mr. Robert Kitchen: Has the CPMA worked with the plastics industry to help focus their attention on what they might need, or make suggestions in any way?

Mr. Daniel Duguay: Our members constitute the growers, shippers and packers. We have packaging companies. We work very closely. I'd say the relationship is very tight among the packaging companies and the growers, shippers and packers.

There is a conversation with those who produce the materials when those materials need to be modified to achieve certain packaging performance requirements. I'd say that's where the conversations occur. Again, in our space, that could involve things like lightweight packaging. When we make it lighter, can the material maintain mechanical performance, even though it's a little thinner?

Another is material you want to incorporate—again, the recycled content. How do you achieve performance when you start changing the chemistry through the incorporation of recycled content?

I'd say that's where those conversations happen between our industry and those who produce the raw materials.

● (1550)

Mr. Robert Kitchen: In a presentation we had just last week, we heard from Food, Health and Consumer Products of Canada. They mentioned that this issue could not be borne by producers alone.

Would you agree with that statement?

Mr. Daniel Duguay: Right now, I'd say definitely. There's a concern that the cost of EPR systems—extended producer responsibility—is increasing at a rate that is not clearly understood. It's not understood how quickly it's going to increase and where those funds are going in terms of improving the state of the overall system.

I would agree with that statement from FHCP. I think it was Michelle who spoke on their behalf.

Yes, there are definitely concerns on the part of the produce industry that those costs are going to be increasing at a rate that requires more transparency, for sure.

Mr. Robert Kitchen: One of the concerns we see here at committee is that for everyone here in the House, it always appears that someone is always coming to the government and asking for government money and government intervention. Oftentimes, as I mentioned last week, the industry ultimately needs to self-regulate itself and also needs to self-sustain itself.

I'm just wondering about your thoughts, from your aspect, as to how the industry does self-sustain itself so that it's not always asking the federal government to deal with issues. When we look at the circular agenda, which is to reduce, reuse, recycle and dispose, how do we do that in such a manner that it's beneficial? How do you foresee that in a manner that's beneficial for Canadians?

Mr. Daniel Duguay: I would share two examples—

The Chair: Excuse me. We're going to have to ask you to submit your answer in writing, because we're already well over his time.

Thank you. You can submit that.

Mr. Daniel Duguay: Okay. Thank you.

The Chair: Thank you.

We'll now turn to MP Diab for six minutes.

Ms. Lena Metlege Diab (Halifax West, Lib.): Thank you very much, Madam Chair.

Welcome to both of our witnesses.

Let me turn my attention to Dr. Allen.

Dr. Allen, I'm going to give you a chance to finish your thoughts, but before I do, I have a bit of a preamble.

I heard you, and I also heard that this is the last day of witnesses for the study. We've been meeting now for a number of weeks. We have heard loud and clear how plastic is affecting our water and, as you said, water, food and air, everything we breathe, with environmental and health risks and so on, even in the water that we're drinking. You also mentioned in your introduction that in 50 years we haven't been able to solve it using plastics.

You were starting to tell us about better alternatives for safer and more sustainable material. In what is both an environmental and a health crisis, we have to solve these problems. I'm going to ask you to start back from the first thing that you were trying to start with—the better alternatives and what we can do as a federal government. Some of it involved other levels of government, but also, more importantly, where does industry come in and where do consumers come in?

I'm going to give you the rest of my time to really hash out that particular question for me. I think that would be very helpful coming from you.

Dr. Steve Allen: Thank you—

Ms. Lena Metlege Diab: l also think I heard in your introduction that you're coming to us from overseas. Thank you for being here this morning—or this afternoon, I guess.

Dr. Steve Allen: Yes. I'm currently in northern Norway.

The question you ask is a very good question, but it would take a week of us sitting down together to nail it down properly. There are alternatives. We've always had alternatives. I don't know about you, but when I was younger, there was no plastic. We had refillable bottles. Milk came in a refillable bottle.

These days, we have the ability to move vegetable material as packaging from places like Asia, Africa and India, which can supply disposable vegetable matter, instead of using vegetables to make new plastic. Environmentally, it's almost identical, because bioplastic and virgin oil-based plastic have the same effect in nature. It has the same effect on us. It's been shown to be just as toxic. Biodegradable is the same. We're not improving things by moving to these other materials. Toxically and environmentally, it's irresponsible.

● (1555)

Ms. Lena Metlege Diab: What alternatives were you suggesting?

Dr. Steve Allen: Areca palm, for example, is just palm leaf that falls off the palm naturally. They press it into the shape of a paper plate. It's completely compostable. It has no glues, unlike many of the other materials like that.

Also, yes, there are glass, metal and things like that, which we've always used. We know what they are. We know how to handle them. We know how to recycle them. Glass doesn't need to be smashed and re-formed into a new bottle. It can be washed. We know how to do that.

It's 2024. I think it's time that we gave up the plastic dream. It's becoming a nightmare.

I mean, in my work, I'm here in the north Arctic measuring plastic that could have come from Canada. It could have come from South Australia. I don't know. It's really hard to prove where it came from, because there's so much of it.

It really is a depressing job.

Ms. Lena Metlege Diab: I think we read that you argue that removing plastic waste at the source—and I think you're starting to get into that—is key before it enters the sea. Let's talk a little about the sea and the ocean.

I come from Nova Scotia, and it's all sea around my province. Can you explain that a little further for us?

Dr. Steve Allen: I actually studied oysters, mussels and lobsters from Halifax and from around Nova Scotia, and I found plastic in all of them, so we have it everywhere. When plastic winds up in the sea, it comes back out of the sea and into the air. That's where plastic can leapfrog over borders and over land masses, and it can reach up into the free troposphere and can travel around the globe in just a couple of weeks.

There's no “away” for plastics. Shipping plastic out to Asia to be recycled is just.... It's crazy. You're just going to get the plastic back in your air and in your food. All it does is set up an illegal waste trade, and we already have a problem with that. Interpol has a great report on it, and Canada is actually a part of that, sending waste to Asia and getting a fake certificate back to say that it was recycled, and it becomes part of your recycle quota.

That's where I think your 2030 pledge is irresponsible, because it's not going to increase the recycling. All it's going to do is increase the illegal waste trade.

Ms. Lena Metlege Diab: What else can we do as legislators, or what else are you recommending besides what you've already recommended? Is there anything else that we can do?

The Chair: You need to regulate the industry.

Ms. Lena Metlege Diab: Regulation....

Dr. Steve Allen: You guys have the power. You can do a lot more than I can. All I'm trying to do is clean up the mess, but you guys can actually regulate this and stop it.

Ms. Lena Metlege Diab: Thank you very much.

The Chair: Thank you.

We'll now turn to MP Blanchette-Joncas for six minutes, please.

[*Translation*]

Mr. Maxime Blanchette-Joncas (Rimouski-Neigette—Témiscouata—Les Basques, BQ): Thank you, Madam Chair.

I'd like to welcome the witnesses who are with us today.

Mr. Allen, a number of witnesses who have come to talk to us about their concerns about biodegradable plastics have told us that, at the end of the day, they aren't really biodegradable because they release microplastics as they degrade.

I'd like to hear your comments on that.

[*English*]

Dr. Steve Allen: I'm sorry. The translation failed. I didn't get any....

[*Translation*]

Mr. Maxime Blanchette-Joncas: That happens, don't worry.

[*English*]

The Chair: At the bottom of your screen, have you indicated that you want English?

Dr. Steve Allen: Yes, I did choose English.

● (1600)

The Chair: You weren't getting.... I was hearing it.

Dr. Steve Allen: I'm not sure what went on there. It says “English” on it, but I'm not getting a translation.

The Chair: I'm sorry. I'll start your time—

Dr. Steve Allen: Maybe if it's very simple French....

The Chair: —again if you could ask the question again, because we were hearing the translation fine here. We're just doing a test here in the room.

Are you able to hear English now? They're doing a test for you.

Dr. Steve Allen: I can hear the voice, yes.

The Chair: Okay, that's great.

Monsieur Blanchette-Joncas, would you start from the top with your question?

[*Translation*]

Mr. Maxime Blanchette-Joncas: Okay. Thank you, Madam Chair. I don't usually like to repeat myself, but this time it's for a good reason. I will be able to express myself in one of the country's two official languages, in theory.

Mr. Allen, a number of witnesses who have spoken to us of their concerns about biodegradable plastics have told us that, at the end of the day, they aren't really biodegradable because they release microplastics as they degrade.

I'd like to hear your comments on that.

Dr. Steve Allen: Okay, thank you.

[*English*]

Biodegradable plastics don't degrade in nature. We've shown that. It's scientifically proven. Basically, you can have a plastic bag in nature for three years and it will still function as a plastic bag. They don't degrade. Chemically, they are just as dangerous as other plastics. It's actually been shown that some of the biodegradables are more dangerous. They break down into smaller particles, but we don't have sufficient regulation and we don't have sufficient studies yet to show what those tiny particles that they break down into can do to humans and animals.

This is a big problem. Most of the studies will stop at, say, 20 micrometers. That's small by most people's standards, but when you start to look at organisms, that's where it becomes food. That can kill an animal. The difference between it being 20 micrometers and one nanometre is unknown through most of these plastics. The industry is not interested in looking at it.

This is something that the government really needs to step up on to actually make sure that these plastics degrade properly, not just "we can't see it anymore". The ISO definition of "we can't see it, so therefore it's gone" is the definition of putting your head in the sand. We know the plastic is there. I know it, because it's part of my research. I'd like to see the Canadian government regulate this. Ask the scientists. Regulate what the scientists tell you that you need to look at and not what industry says.

[*Translation*]

Mr. Maxime Blanchette-Joncas: According to all credible, independent scientific sources, plastic manufactured items have been considered a toxic substance under the Canadian Environmental Protection Act. The scientific literature has proved that they are, but some people still have doubts.

Can plastic be toxic?

[*English*]

Dr. Steve Allen: Absolutely. It's absolutely a toxic material. We've shown this. Thousands of studies on all sorts of biota, small creatures, have shown that this is toxic. Karen Wirsig even pointed out to you that it was recently found in human heart plaque. Now, they're not saying there's an actual causation here, but what they're saying is that it shouldn't be there.

It doesn't take much of a genius to work out that if you put a small particle into a brain, it can cause damage—any particle. I mean, we're talking about PM10 and PM2.5, the same as the carbon pollution that we know is killing eight million people a year. Plastics is in a similar size range and can carry chemicals that it comes into contact with and chemicals that are in the plastic.

We're not talking about the nice safe ones; we're talking about the biggest plastics, such as BPA and things like that.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Mr. Allen, based on the science and the scientific studies you're aware of, do you think it's a good idea to have a bill that proposes to completely abolish the main regulatory measure enabling the government to act on the single-use plastics issue? That's what's on the table right now. Recently, there was a debate on a bill that goes against what we just said.

Scientifically speaking, is that a good thing or not?

● (1605)

[*English*]

Dr. Steve Allen: As a scientist, as a human being, as a citizen of earth, I say it's insanity. Industry has proven that they cannot self-regulate. They lied to us about recycling for the last 50 years in saying, "No, no, it's okay; we've got a fix." They lied. It doesn't work. It's been proven that it's more dangerous to try to recycle it than it is to bury it.

The material needs to stop. We need to make regulations. The government needs to do this. We need to stop greenwashing that we think there's a way to do this. It's not going to happen any time soon. It doesn't matter if it's enzymes, bacteria, fungus or insects that they try to get to make it work; none of them ever make it to a scalable stage. It doesn't work.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you very much, Mr. Allen. That's reassuring. Personally, I find that reassuring. I trust science, not just people's ideas and the interests of large corporations that are pushing their economic priorities instead of environmental ones. I like to talk about science and research, and I am pleased to hear the opinion of people like you, whose expertise is not just ideology-based but broadly knowledge-based.

Mr. Allen, in the time I have left, I'd like you to talk to us about the toxicity of degraded plastics and their effects on human health and the environment. What can you tell us about that? What should the government do to further protect these two areas?

[*English*]

Dr. Steve Allen: I'd love to say we could just get the money hose out to fix this problem. A lot of it could be done with that.

I don't think the problem is educating the public; I think the problem is educating the government and trying to get it back on track, because your job in the government is to look after the people and the environment.

Well, now's your chance.

Mr. Maxime Blanchette-Joncas: There's a new pipeline.

Dr. Steve Allen: Yes. It's a new pipeline.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Mr. Allen, you took the words right out of my mouth. Do you think that a government investing $34 billion in a pipeline is a good idea in terms of science, yes or no?

[*English*]

The Chair: That's our time. You'll have another round.

Now we'll turn to MP Cannings for six minutes.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you.

Thank you to both witnesses here today.

I'm going to continue with Dr. Allen. You have put forward a pretty compelling case for the dangers of plastics and you mentioned any number of alternatives. We are trying to cut down our plastics, obviously, in the environment.

Are there alternatives available for everything we use plastics for now?

Dr. Steve Allen: No, absolutely not. Medical science today would not be a tenth of what it is. You can't have that. That plastic has a place. We all know it. There are some very good plastics and very good materials that do specific jobs better than anything else we have at the moment. We need those.

The rest of it, like plastic packaging.... Half of the plastic issue is single-use packages. Walk into any supermarket, and I guarantee you that when you look down that aisle, 95% of the products on that shelf have some sort of plastic packaging or PFAS on them.

You know and I know that less than 10% of that packaging on that shelf in every supermarket aisle in every supermarket in the country is being recycled. It's all going to landfills. It's not being recycled.

Mr. Richard Cannings: I can see alternatives for most of that packaging.

What would you say, for instance, to Mr. Duguay? Maybe I'll ask him if I have time.

How do we replace, say, film on perishable vegetables, or is that something...? Should we go back to when you and I were young and we didn't have that? Are there trade-offs that we have to make on that?

Dr. Steve Allen: I'd say we need to go back and look at the logistics. The logistics, currently, are that fruits and vegetables get put into plastic and are shipped a very long way. The plastic helps make it look good until it gets in your fridge, where it starts to go off quickly.

I think we just need to redesign the farm-to-fork system to use big containers. Perhaps that's it. I don't know. Logistics isn't my field of expertise, but there has to be a way that we can remove the plastic from the entire system, or at least minimize it.

There are plastic trays that you buy, and the fruit comes wrapped in plastic film with a foam tray underneath. I never asked for my fruits and vegetables to look like that. I never asked for plastic to be on my cucumbers, but it's there. It got pushed on the public. We didn't ask for it. It was all to increase the profits of the supermarket by making food last or look better for a little longer.

I think the government could step in here and start to fund some research into this. Industry should be looking at it. You should be regulating it.

● (1610)

Mr. Richard Cannings: You've also made the case for not recycling plastics. It just makes more plastic, and that causes the environmental issues you're concerned about.

What should we be doing with the plastic that's in our environment now, in our world, even if all countries tomorrow created these alternatives and we all went cold turkey on plastics? What should we be doing with the plastics in our environment right now?

Dr. Steve Allen: Unfortunately, there is no safe way to store this material. If you put it in the landfills, it leaches out as microplastics. If you incinerate it, you get chemicals into the air, and some microplastics if it's not done correctly. There's no safe way to do this.

For the moment, until we find something, we should be landfilling, but that's a temporary fix. We should be sorting the plastic we put in the landfills so that we can recover it easily and we know we have that type of plastic stored here. We can go back and get it later when we can do something safe with it.

We can't let the industry decide what that word means. The plastics treaty, for example, is something that scientists need to be paying attention to a bit more.

Mr. Richard Cannings: I think you said something about how we could find alternatives for about 90% of the plastic we're using today. That other 10% is for things we couldn't replace.

Would that be about right, if we completely went to other materials?

Dr. Steve Allen: I wouldn't put a number on it just yet. There are too many different fields and too many applications for me to say precisely how much.

However, yes, I'm absolutely certain that the vast majority of plastics don't even need to exist in the first place. It was just cheap and profitable to make it. I mean, we didn't have it when we were young. We survived. I'm sure we could go back to that.

The Chair: You have 29 seconds.

Mr. Richard Cannings: I think I'll leave it there.

Thanks.

The Chair: Thank you.

We'll now turn to our second round. We'll start that off with MP Tochor for five minutes.

Mr. Corey Tochor (Saskatoon—University, CPC): Thank you, Chair, and thanks to our witnesses.

I'll change gears to the reality on the ground.

Last Friday, I was at the food terminal in Toronto. It's one of, I believe, five terminals in North America for produce and other food goods coming into Canada. It was a very interesting tour, and I met a lot of different people working in that area.

Mr. Duguay, could you outline in a bit more detail how much faster various types of produce will spoil without the use of plastic packaging?

Mr. Daniel Duguay: It's a great question, because it depends on the produce and how far it's coming from.

Again, part of our challenge is that we are trying to maximize...and meet the expectations consumers and citizens have in this country in terms of having access to fresh produce year-round. What that means is that at certain times of the year, produce travels a couple of hundred kilometres. It travels in a package that maintains quality and food safety over that relatively short period of time.

In the fall, winter and spring, the expectation is still there, and that produce travels from California or Mexico. When it's travelling that much farther, in some cases refrigerated and in some cases not, the risk is that the wrong form of packaging can make it so that the produce won't survive the trip at all or that we'll lose significant portions of it by the time it makes it to the depot. That's what we call “shrink” in the industry. That percentage can be as high as double digits. It's 50%, 60% or more if you're talking about fundamentally the wrong package. As a result, that's not what the industry uses. What it's trying to do is maximize the amount of food that survives the trip, maintains quality and remains safe so it can be distributed and consumed. That's ultimately what we're in the business of doing: getting food.

I'm sorry. Maybe that's not a direct answer.

The wrong packaging can pretty well prevent that supply chain from fundamentally working. That's the balancing act the industry faces every day.

● (1615)

Mr. Corey Tochor: You brought up “shrink”. What would that do to the price of food?

Mr. Daniel Duguay: Well, the price of food is linked to how much you pay and how much you can put on the shelf. Hence, when you look at something like bulk versus packaged produce, it's a challenge. There's a different level of loss when something is sold in bulk versus sold packaged. Stores and retailers make decisions based on consumer preferences, consumption patterns, etc.

The challenge is this: If you have produce that has significant shrink in transit from the farm to the depot, that has to be reflected in the cost, because ultimately the grower gets paid *x* dollars and you're trying to sell that amount.

Right now, you'll see shrink levels in single digits, depending on, again, the commodity type and time of year. If those shrink levels increase, you could almost say that you're going to see prices increasing proportionally. When we looked at the impact of a significant reduction in plastic packaging for produce—and I said “significant”, like effectively banning plastic packaging for produce last year—we saw the potential for cost increases of over 30%. That was the order of magnitude.

Mr. Corey Tochor: We're in a cost of living crisis right now. Everyone is talking about how expensive food is. I'm assuming the CPMA has heard those concerns.

Mr. Daniel Duguay: Absolutely.

Mr. Corey Tochor: What would be a solution? Right now, we're heading towards a path, or we're down a path, where if the Liberal government gets its way, there'll be no plastic available, so food costs are going to grow, resulting in more poverty out there.

I'm more worried about the food bank usage. Right now, we know there are a couple of million Ontarians who need to rely on the food bank. It's going to grow that much higher. Just on the food bank aspect, do you guys work with the local food banks on real-world solutions to feed people? Does some of the extra produce or some of the shrinkage that isn't bad end up at the food bank, hopefully?

Mr. Daniel Duguay: There's a very strong working relationship among retailers for produce that's basically not sold but still consumable. It's a very different challenge, of course, from produce that spoils and isn't consumable. Those are efforts that we're working on, and in fact there's a study coming out next month that will actually speak to the opportunities to improve that.

Mr. Corey Tochor: Thank you so much for your testimony, from the people who like to eat three meals a day.

The Chair: Now we're going to turn to MP Kelloway for five minutes, please.

Mr. Mike Kelloway (Cape Breton—Canso, Lib.): Thanks, Madam Chair.

Thanks to the witnesses.

Dr. Allen, I want to thank you for very candid testimony. Very few times do we hear the words, which you used in your testimony, “global environmental health crisis”. I think that is a pretty profound statement, and actually, I think it's a pretty profound moment.

When I first came to this committee and when I heard that we were studying plastics, I wasn't sure what I was getting myself into. I've learned quite a lot from a variety of witnesses, including you today.

There are a couple of things. I mentioned the global environmental crisis. I want to go there, and then I want to go to what you talked about towards the end of your testimony, which is how we solve the problem.

I'm wondering if you can just unpack briefly—because I want to come back with another question for you—the health outcomes related to microplastics or related to, as you put it, most if not all plastics. I'm wondering if you could just break it down for people. I think it is up to government and legislatures to have a serious conversation, to not use political talking points, to move the ball forward and to make sure everyone is safe and secure, which is a fundamental right of every parliamentarian. Can you give us a sense of what this causes in individuals, with a little detail? Then I will come back with a second question.

● (1620)

Dr. Steve Allen: Thank you.

Let me give you a little scenario. They use plastics for drug delivery, and it's a very specific design and shape because it can pass through blood-brain barriers. It can pass through any part of the body because it's so spiky that the body can't see it. It doesn't generate the immune response. When you look at microplastics under the microscope, you will find they're the same shape. That's why they can move into and out of our bodies quite easily. Studies done on scallops and things showed that when they fed them microplastics and nanoplastics, they were in every part of the animals within a few hours.

Currently, if you have a look at what can pass into the blood through the gut, it can be up to 150 microns, which is quite big, but with nanoplastics—and I do a lot of work with nanoplastics—there's nothing to stop them going everywhere in the body. They contain an endocrine-disrupting chemical. They can absorb DDT and all the other chemicals that we prefer to forget about. They can stick to those nanoplastics. Imagine what that could do to a developing baby's pituitary gland. If you had enough of those particles lodged in that gland, what could that do to the development of a human? What could it do to the development of any creature on the planet?

We talk about the guts of worms being blocked up because their mouths are bigger than their anuses. They normally take a whole particle in, digest it and then release it. However, plastics block them up so that they're full forever, until they die of starvation.

My research is in remote areas, and I'm looking at those because these are our reserves for all that biota that keeps the world working, and we're flooding them with so much atmospheric plastic falling onto the ground there—in hurricanes in Newfoundland, for example. At the peak season, when everything's growing and everything's feeding, we're suddenly feeding them literally tons of plastic particles at the exact size that they want to eat, and they smell like food. They release pheromones like the EDCs, the endocrine-disrupting chemicals. All these chemicals look like food.

We've had it in breast milk and placental serum. It's in testes. It was in baby's first poo. It's in every part of the human body already, and it's a foreign object. We have not developed any resistance to this material. We only got nanomaterials at all when we started smelting metals. Thankfully, they were mostly inert, except for lead, which we know does bad things to us.

Plastics have no place in our lives. Very soon, we're going to know just how bad this is.

Mr. Mike Kelloway: Thank you for that.

How much time do I have left?

The Chair: You have 19 seconds.

Mr. Mike Kelloway: Okay.

In one of the pieces in your opening statement, I believe—or one of the testimony interactions—you talked about how government needs to play the role and to regulate. I appreciate that very much.

I also know that there's a tendency for agendas to get hijacked and for an ostrich approach to dealing with a fundamental problem. You talked about eight million people dying because of carbon emissions. Sometimes you wouldn't know that in this place. You mentioned that educating is a part of it, but not all of it. I do believe that we need to educate the public on the seriousness of the things you just brought up.

The Chair: Okay, you can submit that in writing if you'd like.

Dr. Steve Allen: Yes, that's the government's job. The government needs to know it first.

The Chair: Excuse me, Dr. Allen. You can submit that in writing unless another questioner here takes it up; I'm sorry.

Now we will turn to MP Blanchette-Joncas for two and a half minutes, please.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Madam Chair.

Mr. Allen, I agree with you. The government has a very big responsibility when it comes to defending and protecting the environment. Now is not the time for education; now is the time for action. Everyone already has an overview of the situation. I would like a reality check.

In 2019, the current government promised to ban the use of certain single-use plastics. It was all very promising. In 2020, it imposed standards and penalties to hold companies that manufacture plastic, collect waste or recycle materials accountable. In 2021, the most widely used excuse of the decade was the pandemic. All of a sudden, there was nothing they could do to regulate plastic. However, when it came time to subsidize oil and gas companies to help them get through the economic crisis, plenty could be done. Then the government implemented a very partial regulation on only six of the hundreds of items in circulation. In addition, no ban on manufacturing or sales will be in effect until December 20, 2025. That is convenient, since it will not happen until after the next election, when we may have a new government.

Do you think these measures will really make a difference in terms of protecting the environment and recycling plastic?

● (1625)

[*English*]

Dr. Steve Allen: Honestly, any step forward is a good step, but the report card is, obviously, that we must try harder.

I'm sorry, guys, but I'm quite disappointed with the Canadian government's approach to this when its main function here is to protect the environment and the people of Canada. What I'm seeing is people defending the plastics, and I really don't understand it. I thought your job was the environment and the people.

I'd love to sit down with all you MPs in a room and have you explain to me exactly why you think that way, because as a scientist, I can see the reality of the situation. There's no ideology. I don't have a cross to bear. I don't have anything like that. I'm just telling you what's wrong with the planet and what's wrong with what you're planning to do. I think it's irresponsible to try to recycle now. We don't have the technology. We don't have the infrastructure.

[*Translation*]

Mr. Maxime Blanchette-Joncas: That's very clear, Mr. Allen. I hope that the people who make the decisions will listen to us and, above all, know what decisions to make in the future.

Thank you.

[*English*]

The Chair: Thank you.

Now we will turn to Mr. Cannings for two and a half minutes, please.

Mr. Richard Cannings: Thank you.

I'm going to stay with Dr. Allen.

I know you've studied the issue of plastic pollution around the world—in Asia, etc. We've all heard of the big blobs of plastic pollution in jars out in the middle of the Pacific Ocean. I know from going to island nations such as Samoa that they're facing a huge problem of tonnes of plastic washing up on their shores.

I'm a bird biologist. A friend of mine was studying the albatross nesting on the Midway Islands, out literally in the middle of the Pacific. Those albatross feed on the coasts of British Columbia, bringing food from there to their young at Midway. He had sights of a young albatross coughing up a toothbrush.

I just wonder if you could comment on the worldwide scale of this problem and on how all that pollution from around the world, all that plastic, affects us here in Canada and everywhere.

Dr. Steve Allen: There are no borders in nature.

There are between 12 and 20 million tonnes being pushed into the ocean every year. That's got to go somewhere. When plastic breaks up in the ocean, whether it's through rubbing on the sand on the beach, UV or salt, it can come back in the air. It doesn't matter where that plastic went in; you can be breathing it in Canada and anywhere else on the planet.

My research is up in the free troposphere as well, which is above the clouds. That's the superhighway for plastic and all chemicals. Plastic can go around the world in two weeks, so as for shipping your plastic away, there's no "away" for plastic. There's no, "I will just send it to Asia, because they can recycle it." It doesn't get recycled; it's burned. It gets pushed into the river. There's ample proof of that. Read the Interpol reports, please. I recommend everyone that does that.

I'm currently researching plastics up here in the Arctic, but my NGO is tackling plastic waste going into the river in Asia as a start, because the majority of plastics in the oceans come through Asia, because western countries thought Asia was a good place to dump their waste. They didn't have any way to recycle it.

Mr. Richard Cannings: Thank you.

The Chair: Thank you. That's our time.

I want to thank Dr. Steve Allen and Daniel Duguay for your testimonies and participation in the committee study. If you have further testimonies you'd like to submit in writing, you may do so with the clerk.

We're now going to suspend briefly and get ready for our second panel.

● (1625)

_____(Pause)_____

● (1630)

The Chair: Welcome back. We'll get started again, please.

For those of you participating by video conference, click on the microphone icon to activate your mic. Please mute yourself when you are not speaking. There is interpretation for those on Zoom. You have the choice at the bottom of your screen of floor, English or French.

It's now my pleasure to welcome our witnesses.

From the Council of the Great Lakes Region, we have Mark Fisher, president and chief executive officer.

From Selkirk College, we have Jason Taylor, department head of Selkirk Technology Access Centre, by video conference.

From Sustainable Strat, we have Marina Pietrosel, principal, of sustainable development and compliance.

Welcome to all three of you.

Up to five minutes will be given for your opening remarks, after which we'll proceed with rounds of questions.

Mr. Fisher, I invite you to make an opening statement of up to five minutes, please.

● (1635)

Mr. Mark Fisher (President and Chief Executive Officer, Council of the Great Lakes Region): Thank you, Madam Chair and honourable members of the science and research committee, for the opportunity to speak to you today as part of your plastics recycling study.

Formed in 2013, the Council of the Great Lakes Region, or CGLR, works across the provinces of Ontario and Quebec, as well as eight states in the U.S., from New York to Minnesota. Our mission is to bring the region's diverse perspectives and interests together across borders and sectors to accelerate the transition to a sustainable future.

What does this mean in practice? For CGLR, it means advocating supportive policies, business strategies, innovations and public-private sector investments that will ensure that the region's economy, North America's industrial engine, is growing responsibly; all of the region's people are thriving; and the Great Lakes, the largest freshwater system in the world, is protected for future generations. If we're successful, our aim is to create the first sustainable region in the world.

A significant challenge the region is facing today is how to sustainably manage the materials we use as consumers and as industries and reduce waste, especially plastics.

Why is this a challenge? Research, as well as data from the Great Lakes plastics cleanup, which CGLR runs with Pollution Probe, shows that 80% of the pollution washing up on the shoreline is plastic in the form of litter or sometimes the accidental release of pellets used in plastics manufacturing.

In addition, studies by the U.S. Chamber of Commerce and The Recycling Partnership in the U.S. indicate that over 80% of the valuable plastics we use as consumers are ending up in landfill.

CGLR's own research estimates that based on landfill audit data, we are throwing out roughly 12 million imperial tons of valuable plastics worth over $2 billion Canadian every year in our garbage. As a result, CGLR launched the circular Great Lakes initiative and released a five-year action plan in 2022 to mobilize stakeholders in sectors to forge a future without plastic waste and pollution.

Pertinent to this committee's work, the action plan focuses on driving projects and change in six key areas where we see critical gaps, notably for consumer plastics: the collection of plastics, such as curbside and drop-off programs; the technological advancements required in our recycling infrastructure, such as mechanical recycling, secondary sortation and new chemical recycling solutions, to expand the sortation and processing of plastics; the development of competitive and more diverse end markets for a wider range of plastic materials; the need to inform consumer behaviours through increased education and engagement; the policies required to enable sustainable materials management practices; and the investments required by government and business to support and accelerate the development of new infrastructure and packaging solutions that are more sustainable and recyclable.

By facilitating projects in these areas with many partners, we want to help facilitate the achievement of a 50% recycling rate in the region by 2030. This is consistent with the zero plastic waste strategy adopted by CCME as well as the national recycling strategy put forward by the U.S. EPA.

From a resource recovery and recycling standpoint, a key aspect of a circular economy, this will require the ability to divert an additional three million tons of plastics away from landfills annually. That's roughly 2.7 metric tonnes in Canadian figures. Given that we are currently recycling, on average, about 9% of consumer plastics in Canada and the United States, achieving a 50% recycling rate will be no small effort, but it can be done.

However, achieving a 50% recycling rate for consumer products does not equal a circular economy. A circular economy, by design, is achieved when we can eliminate material waste and pollution, circulate products in the economy at their highest value and regenerate nature. Therefore, in considering innovations, science and research in recycling plastics, or, more importantly, achieving a circular economy, I encourage you to consider the following.

First, new legislation and regulatory certainty are certainly needed to enable the economic and societal change necessary to transition to a circular economy. Ensuring that each level of government is doing its part and is aligned will be crucial with respect to the standards, regulations and targets that will catalyze circularity, such as extended producer responsibility, recycled content, recycling rates and labelling.

Second, in considering source reduction measures or product alternatives, you must remember that all products have an environmental impact, and in many applications plastics today continue to be the best option for a variety of reasons. Adopting a life-cycle approach will be vital for evaluating the trade-offs between the socio-economic and environmental impacts of different materials and circular approaches.

Third, other countries, such as the United States, are investing heavily in materials science and new manufacturing processes, creating the conditions for new industries and products to be developed and deployed at scale. The Government of Canada must do the same, and more, through its research granting councils and investments in small businesses and industry-driven R and D if Canada is to have a significant presence in the green economy.

● (1640)

Fourth, we will not be able to recover all of the materials from consumers and the industrial, commercial and institutional sector, not just households, if we rely solely on mechanical recycling solutions or traditional recycling. Permitting or creating the legal framework for the development and use of new and emerging sortation approaches or other material processing methods like chemical recycling is strongly encouraged.

Last, consumer education and behaviour change will play an important role in reducing waste, increasing recycling and ultimately achieving a circular economy. Therefore, we must ensure that the practices we are asking consumers to adopt today are easy to understand, affordable and easy to access.

Thank you, Madam Chair, and I'd be pleased to take your questions.

The Chair: Thank you.

We'll now turn to Jason Taylor for an opening statement of five minutes.

Mr. Jason Taylor (Department Head, Selkirk Technology Access Centre, Selkirk College): Good afternoon, and thank you for the opportunity to speak before the committee.

As a department head and researcher at the Selkirk Technology Access Centre here in the Kootenay region of British Columbia, we have really focused on supporting industry and community in our learning region through research and development and through training in advanced manufacturing and advanced computing.

Since 2020, the STAC has been fortunate enough to work with some amazing industry and community partners throughout our region to foster circular economy practices and to advance both education and research in plastics recycling and reuse.

I also want to share a few examples of projects we've been working on. I'll start with KC Recycling.

KC Recycling is here in Trail, B.C., and they recycle car batteries as one of their outputs or business models. They recycle polypropylene from car batteries in the amount of 200 tonnes per month and are looking to double and possibly even triple that into the future. One hundred per cent of this plastic is currently being packaged and shipped in pellet form across North America to go back into batteries or other automotive industry plastics.

The research we've been working on with KC Recycling directly has been to use these pellets as something else. We've successfully been able to use it as a feedstock for 3D printing and injection moulding. We've also been looking at other opportunities locally, and that's the key here. Instead of having this material shipped here, processed, and then shipped back out across the world, we're looking at what we can use this plastic for locally in the industries that we support, such as mining, hydroelectric power generation, forestry and, of course, mass timber.

Another key partner of this partnership and most partnerships that we've been working with here at the STAC is the partnership and involvement with students. We have a program here called the digital fabrication and design program, and a key opportunity in that program is to teach about sustainability, a design for reuse and possibly even the elimination of plastics in some cases.

Another partner we've been working with is Tempus 3D. Tempus is an industrial 3D printing company. The industrial process they use is a powdered material called PA12. Out of each cycle of the print, there is about 5% to 20% of waste plastic that cannot be recycled in its own system. What we've been looking at are opportunities to print that waste. One way is a printer we just purchased that will print that machine's waste for industrial level 3D-printed objects and materials.

Another great partner that we work with is the Kootenay Outdoor Recreation Enterprise. KORE has started a new program called the KORE Re-Hub, and it's all around outdoor gear recycling or circularity. You have a ski boot, and a part breaks on it, and you find out after two years of owning that ski boot that the manufacturer does not make that part anymore and you can't buy it, so what happens to that product? Oftentimes, it gets thrown into the garbage, and you have to go buy a new one. The industry loves that, but we don't. We've been looking at supporting, both through education and producing parts for outdoor gear, that circularity and repairing or reusing those parts in other ways.

The primary key to all of these partnerships is research, but it's also about embedding the circular economy principles and techniques into our curriculum. We've started with our digital fabrication and design program. It will be introduced through our engineering program and many others as a core direction that we would really like to introduce into all curriculum thought processes at the college here.

● (1645)

We believe the environmental and economic benefits these practices will introduce when students are designing for the next big company will be key.

The Chair: That's the end of your time for your opening statement, but perhaps you you can cover the rest of your comments through the questions.

We will now turn to Marina Pietrosel for an opening statement of five minutes.

[*Translation*]

Ms. Marina Pietrosel (Principal and Consultant on Sustainable Development and Compliance, Sustainable Strat Inc.): Good morning.

My name is Marina Pietrosel. I thank Mr. Blanchette-Joncas for suggesting that the committee invite me to talk about my experience. I'd like to talk more about the positives than the negatives.

My experience is really in the food processing sector, where I worked for over 10 years. I also worked in the recycling sector for 10 years. In addition, I've done work on extended producer responsibility programs, which exist in every province in Canada. I have experience on the ground. I don't have high-level scientific experience, but it is scientific in the sense that we do a lot of studies on materials recycling and recyclability. I could talk about any material, but today we're talking about plastics.

In 2021, the Canadian Council of Ministers of the Environment developed guidelines for recycled content in containers and packaging for all new products. The deadline was set for 2025, but it went nowhere.

I should note that environmental issues fall under provincial jurisdiction. That doesn't mean the federal government shouldn't provide assistance, quite the contrary. Be that as it may, this falls under provincial jurisdiction, and all provinces, including Quebec and Ontario, have extended producer responsibility programs.

Plastic is a material that is used more for consumer goods, particularly for food and health and beauty products. The primary purpose of packaging and containers is to preserve and protect the product. Packaging represents 5% of product-related waste. In the case of poor production or preservation of a product, the percentage that ends up in a landfill is 80%. Therefore, we shouldn't focus our ire on packaging so much as work to make it better.

I've been a consultant for 10 years. I work with private companies to replace environmentally harmful packaging with recyclable and recycled packaging.

Since the new regulations came into force in Quebec in 2022, product recycling and upgrading rates have been quite high. Producers who market packaged goods have an obligation to contribute financially to the extended producer responsibility system. In addition, packaging materials for all their products must be recyclable or recycled at a rate of up to 85%. That's a high percentage.

The way I see it, we have to work at all stages of the value chain. Materials suppliers, manufacturers, processors and companies marketing products cannot work alone. Everybody needs to be at the table to make the system work. The materials supplier must be responsible for what it sells to the processor or manufacturer. We're talking about plastics today, but it could be other materials. That responsibility is passed on to the retailer selling the products. Without this partnership, we can talk about it endlessly, but nothing will change. Producers are still investing thousands of dollars in the extended producer responsibility system, so everyone has to work together.

● (1650)

[*English*]

The Chair: Thank you very much for your opening comments.

We'll now turn to our first round of questions. Please be sure to indicate to whom your questions are directed.

We will start off with MP Viersen for six minutes.

Mr. Arnold Viersen (Peace River—Westlock, CPC): Thank you, Madam Chair.

I want to thank the witnesses for being here.

Mr. Fisher, I was intrigued by your testimony.

How does your organization deal with the microplastics the Great Lakes interact with? Do you measure that far down? Do you have opinions about that? I'm interested in your opinions.

Mr. Mark Fisher: It's a great question.

Today, through the Great Lakes Plastic Cleanup, which we run with Pollution Probe—one of Canada's oldest environmental charities—we have a series of innovative capture and cleanup technologies that we operate in Ontario and across a number of states. Working with local partners, we are collecting debris on beaches and in our waterways, particularly our marinas, in order to characterize what we're finding. It's plastic, and typically smaller plastic—cigarette butts, predominantly, and broken-down food and beverage materials that have been in the environment for a long time. By collecting that and understanding the types and sizes, we can work to understand the different sources and pathways. How did it end up there? It is predominantly public litter. I will say that.

That data is extremely helpful in having conversations with decision-makers like you about how to stop this from a policy standpoint, and how to engage with coastal communities in order to let them know the impact that this type of behaviour and those activities are having on our environment and the Great Lakes.

There is certainly a lot more research happening today, through our higher education institutions, about the scale and scope of microplastics and microfibres in the Great Lakes. As said in a previous testimony, we're trying to understand the environmental and human health impacts of that material when it finds its way into, let's say, drinking water or wildlife.

Mr. Arnold Viersen: You're not trying to recover microplastics or anything like that.

Mr. Mark Fisher: We'll recover it as much as we can through our capture and cleanup technologies. However, once it's in the Great Lakes themselves, it's extremely difficult to capture microplastics effectively.

Mr. Arnold Viersen: You're not doing any work on nanoparticles or anything like that.

Mr. Mark Fisher: No. I would say that most of the research is being done by our higher education institutions at this time.

Mr. Arnold Viersen: Okay.

Sustainable Strat, are you doing any research around, or have opinions about, how we can divert from using plastic? Do you have an idea?

We keep hearing that the medical and research worlds can't do without plastic, but for some of the other containers and things like that, we could probably.... We just heard that a bamboo or palm leaf could be used as a disposable plate.

Do you have any other examples? For places where we use plastic exclusively today, how can we return to something that isn't plastic?

● (1655)

[*Translation*]

Ms. Marina Pietrosel: In the work I do directly with businesses, customers, producers and manufacturers, we look at other materials—

[*English*]

The Chair: Can you hold for a moment, please?

A voice: I'm not getting any translation.

The Chair: Can you speak again, please? We'll see if he can hear.

[*Translation*]

Ms. Marina Pietrosel: I've been working directly with companies, whether manufacturers, retailers or producers, for a good year now, ever since the extended producer responsibility program imposed fairly high recycling rates. We've started working on eco-design, new materials and single-material products.

We have explored the degradable side of materials a lot, because it must be said that there is no such thing as biodegradability. Materials made from bamboo, palm fronds and other similar materials are not at all up to par. From a food preservation perspective, we don't yet have evidence that these materials can actually be effective. We're talking about products that consumers will eat. These materials need to be able to preserve them. We're not there yet. I've done a lot of testing through composting, recycling and other methods, and so far the new materials, as they're called, have been utterly inconclusive.

[*English*]

Mr. Arnold Viersen: For the Selkirk STAC—that's a neat acronym—around the synergies you've been developing in your region, how scalable is what you're doing there? Is it something that you would say should be repeated across the country, or is it pretty unique and you just have stick to building out what you have going on there right now?

Mr. Jason Taylor: This is a long-term project for us, but we definitely would love to see this scaled out. I think that's a beautiful part of being in the TAC network, the technology access network. There are 67 of us across Canada, and this could be repeated easily in other advanced manufacturing TACs.

The KORE initiative, the Kootenay Outdoor Recreation Enterprise Initiative, started a conference in Kimberley today that is lasting for the next couple of days. The recycling and circular economy is definitely a big part of that, because so many of the parts for mountain bikes or ski boots, etc., are plastic. What happens when they've passed their usability? That's definitely a huge opportunity.

The Chair: Thank you.

We'll now turn to MP Chen for six minutes, please.

Mr. Shaun Chen (Scarborough North, Lib.): Thank you very much, Madam Chair.

My first question is for Mr. Taylor.

You were speaking earlier and ran out of time. I'd like to give you the opportunity to finish your testimony.

Mr. Jason Taylor: Right.

One of the other organizations I'd like to mention in this region is the Lower Columbia Initiatives Corporation. They have worked with a group of us to really promote circular economy opportunities in this region and elsewhere.

The LCIC, first in the Metal Tech Alley, and then, of course, in the circular economy opportunities, has really brought us together and has given us a vision or a hope to, again, promote industry collaboration with education and research and the community. It's been a great opportunity.

Mr. Shaun Chen: Your organization, STAC, is engaging with organizations that are both small and large in creating awareness and educating on the circular economy. Why is it important to work not just with large industry players but also with small and medium-sized enterprises?

Mr. Jason Taylor: If these small companies start properly, if they start utilizing or thinking about circularity, design for reuse or design for alternatives to utilizing plastic, or utilizing a plastic that is recyclable or comes from a better source than just virgin material, we hope that during the design process or initial start-up, they use the right techniques.

● (1700)

Mr. Shaun Chen: I was very intrigued to hear your example about recycling car batteries and repurposing that recycled plastic into pellets and shipping it for reuse in car batteries across the country, but you did mention the importance of developing more local partnerships. Could you share with us why it is important to create circular economies that are localized?

Mr. Jason Taylor: If I or KC Recycling or any company doesn't have to ship a product across the world.... Shipping is a major consumer and producer of greenhouse gases, of course. If we can make what we need here and reduce the need for shipping or bringing everything from another country, that gives us the power to be sustainable, for sure.

A pallet is a perfect example. If we don't need to have a product shipped from here to somewhere else on a pallet that is made of plastic that we've bought from somewhere else, we can make that pallet here and ship it out. That pallet is made from car batteries or from recycled polypropylene from car batteries.

There are so many other examples of those types of opportunities, not just with car battery plastics, but with any other type of plastic that fits into that recyclability framework.

Mr. Shaun Chen: It sounds like you're certainly creating models that can be used in other parts of the country.

Another area you touched on was the work you're doing with students in ensuring that the concept of a circular economy is embedded in different areas of the curriculum. Could you give examples of your work in this project and how you hope to transform the future thinkers and the innovators in the emerging economies ahead?

Mr. Jason Taylor: Before I became the department head of the TAC here, I developed this digital fabrication and design program. A key hope when we designed the curriculum was that every piece of it has the thought process of, “Why? What material? Is there a better material? Is there something we can think about in design for reuse, recycling or recirculation?” For the manufacturing processes as well, we ask, “Is it clean? What are we doing with the waste?” It's all of those types of things.

I think that this core concept is a really cool opportunity to be able to share and export to other educational institutions.

Mr. Shaun Chen: Thank you.

The Chair: You still have a minute left.

Mr. Shaun Chen: That's wonderful to hear.

Could you give some examples of some projects your students have worked on that can demonstrate how the circular economy can be understood and applied to solve existing problems society is faced with?

Mr. Jason Taylor: A student I recently hired is now an employee of the college because of his work as a student. His capstone was to develop the extrusion process on our very large 3-D printer that we built here at the STAC. This extrusion process basically takes the pellets from KC Recycling and extrudes them in the 3-D printing process.

The build volume of the printer we built here is four feet by three feet by six feet tall. It allows us to make very large parts from fully recycled car battery parts. If we used other plastics to generate that, we would have to buy virgin material and then print the part. This would be used to make moulds for any other type of manufacturing process.

The Chair: Thank you.

Now we'll turn to MP Blanchette-Joncas for six minutes, please.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Madam Chair.

I'd like to welcome the witnesses who are with us for the second hour of the meeting.

First of all, I'd like to thank Ms. Pietrosel for being here today. She travelled to join us less than 24 hours after receiving the invitation. I think that's remarkable and deserves to be recognized.

Naturally, I also want to commend you for your commitment, Ms. Pietrosel. You've been working as an expert in environmental management for over 25 years. You're a woman of experience.

● (1705)

Ms. Marina Pietrosel: It's been 30 years, actually.

Mr. Maxime Blanchette-Joncas: Okay. I said it was over 25 years, so I wasn't wrong. I was going by the documents I have in front of me. We will have to make sure that the information is updated. If it's 30 years, that's even better than 25.

Ms. Pietrosel, given your experience, I would like you to tell us more about the tangible things you are hearing or seeing on the ground.

We see governments making decisions. They want to eliminate certain uses of certain materials, such as plastic. Based on your perspective and experience, shouldn't they instead rely on science to make decisions before trying to ban certain types of materials?

Ms. Marina Pietrosel: That's a very good question, Mr. Blanchette-Joncas.

I'll give you an example. I'm working with a company today that uses different plastic films, such as LDPE films, which are simple, meaning they don't contain any other resin. Previously, this company also used multilayered films, that is, films made up of multiple layers of polypropylene and polyethylene, for example, to ensure the preservation of the packaged product. In Quebec, we've managed to find people who manufacture packaging composed of a single material with the same properties, not only for food preservation, but also for health and beauty products. So we do have some very interesting resources. We're still working on both aspects, meaning what is recyclable and what is recycled.

One of the most important things is testing. Here, I'm talking about science on the ground.

First, we conduct in situ tests to see if a product works, if it's clean enough, if it's made from the same resin and if it's recyclable.

Second, we do lab tests to see if the new packaging with just one material preserves the products as well as the old packaging. So it's a scientific effort that we are conducting with people from the Institute of Packaging Technology and Food Engineering and the Industrial Ecology Technology Transfer Centre, among others. We make sure that the shelf life of products is adequate for consumers.

Third, we do in situ testing using producer equipment. Today, most of the resins used to make standard packaging come from India or elsewhere in Asia, whereas here, we have literally the best recyclable and recycled material possible. Yes, the other options may cost less right now, since the wave of extended producer responsibility has only just started and producers have to pay 100% of the system costs. However, it will soon become much cheaper to use recyclable and recycled materials.

I'm focusing on recycled content, as the Canadian Council of Ministers of the Environment did in 2021 by calling for recycled content targets, like California, which has set a target of 25% to 30% for all packaging. There have been some steps taken in Colorado as well. That's what I heard last week when I was at the Canadian Stewardship Conference. Some states in the U.S. are really starting to set concrete targets for recycled content, and we need to do that as well.

Mr. Maxime Blanchette-Joncas: Thank you, Ms. Pietrosel. Your experience says a lot. I really like your holistic view of the recycling system, but also of the value chain and all its facets.

As you know, the federal government wants to achieve zero plastic waste by 2030. It's an ambitious goal, one might say. Again, nothing is going to come into effect until December 2025, so there could be a new government between now and then, and that government could make different decisions.

I know that you actively participated in the creation of the practical guide on eco-responsible food packaging in Quebec. Could you to share your main recommendations with us? What do we need to try to improve in all of this? We're the decision-makers, but you're on the ground. What do we need to know to improve things and, above all, to avoid repeating the mistakes of the past?

● (1710)

Ms. Marina Pietrosel: Thanks to the new program, we have an opportunity to avoid repeating the same mistakes.

First, the legislation to ban certain plastics by 2030 is inconsistent with provincial regulations. That's obvious. I can speak to the Quebec and Ontario legislation, in particular. I know the other provinces as well, but I don't know the specific dates, since it's more recent. For some plastic categories, the issue will be addressed between 2027 and 2030, to analyze the situation. So, if we ban certain plastics in 2030, first of all, which ones will be banned and why? Second, how will the companies marketing products be able to get the recyclable and recycled packaging they need by 2027? There's a dichotomy there. We have to align with the same dates.

Mr. Maxime Blanchette-Joncas: From what I understand, Ms. Pietrosel, you have a lot of doubts about feasibility.

Ms. Marina Pietrosel: I have doubts about the timelines, yes, because the extended producer responsibility will start on January 1, 2027.

[*English*]

The Chair: That's the time, please. Thank you.

We will now turn to Mr. Cannings, for six minutes, please.

Mr. Richard Cannings: Thank you, and I thank all three of you for being here today.

I am going to start with Mr. Taylor, because it's very nice to see and hear from you today from the Selkirk Technology Access Centre. I've had the pleasure of touring there. I also toured KC Recycling, which you mentioned. Right next to KC Recycling is Cirba Solutions, another big recycling centre. Trail, B.C., is a real centre for recycling of all sorts.

KC Recycling, as you mentioned, recycles primarily lead acid batteries, so the main products are the polypropylene pellets you mentioned, and the lead goes right into the Teck lead and zinc smelter in Trail. Cirba Solutions recycles every other kind of battery you can imagine.

Both of them are the biggest of their kind in North America. The Teck smelter operation is now proposing a large EV battery recycling centre to make it one of the biggest on the continent. It's a very exciting sector in Trail, and a very exciting place to be for you. You're right in the centre of all that.

First of all, you sort of touched on some of those things, but how do you see your research there with the students connecting with these various companies that are really at the cutting edge of recycling not just plastic but metals and battery materials, etc.? How do you see yourself and your facility really playing into that?

Mr. Jason Taylor: To start with, my facility is too small, so we're looking at an expansion or a new building for future opportunities. We are always working with new or existing partners, like Teck Metals or Mercer Celgar, just up the highway in Castlegar, and of course other avenues of research.

It always comes down to time and money and the opportunities we can involve students in before it just becomes too big or too much for our current capacity, but we're expanding. We're looking at new opportunities in 2025.

It's great to see some of the new grant opportunities. The plastic grant opportunity in B.C. was called CleanBC Plastics, which was great for industry partners and ourselves alike.

It just comes from having key people. If we can keep doing what we're doing, and if the team at LCIC and KC Recycling can keep supporting the educational opportunities and the research opportunities, we can involve tech and other larger companies while still keeping the small SMEs involved as well.

● (1715)

Mr. Richard Cannings: I was going to ask you about other products. We've been talking about alternatives to plastic here as one of the solutions. You mentioned Mercer Celgar. It's a big pulp mill. Are there any initiatives going on there with new materials that might...?

Mr. Jason Taylor: I believe it's still working on lignin as an opportunity. In this region, ABC3D, Advanced BioCarbon 3D, was researching opportunities of extracting lignin from wood chips to create a biodegradable plastic. I haven't heard what their latest opportunities are there, but through the pulp and paper process, lignin is extracted and can be utilized as a biodegradable polymer.

I'm not sure where it's at right now. Oftentimes, big industry gets really busy and the opportunities for applied research are put on the shelf.

Mr. Richard Cannings: You mentioned you were part of a network of technology access centres across the country. I don't know how connected you are with them in terms of what they're doing.

Are there any other synergies in that network that would touch on plastics, plastic recycling and trying to solve this major issue?

Mr. Jason Taylor: Yes, absolutely.

The tech access centre network meets every three months, if not more. We really promote inter-TAC partnerships. Currently, in other sectors and other areas, we're working with a TAC in Red Deer. Another one we work with all the time is in Camosun College.

There are only three TACs in B.C. There are 30, I think, in Quebec, and there's almost the equivalent to that in Ontario. For us to partner, it definitely is virtual rather than visiting another TAC.

I know the TAC network definitely has other research areas in recycling composite materials. There is another one in waste recycling and recovery in water treatment in that area as well. Many other TACs have a subset of recycling or circular economy as part of their mandate.

Mr. Richard Cannings: Thank you.

The Chair: We'll now turn to our second round of questioning.

We'll kick that off, please, with MP Lobb for five minutes.

Mr. Ben Lobb (Huron—Bruce, CPC): Thanks very much.

My first question is for Mark.

Mark, if you look at all of the municipalities throughout the area and the different recycling companies, and some of what Marina was talking about with the manufacturers, the companies, and everything else, what is the percentage that actually gets recycled?

Some of these municipalities recycling in conjunction with the recycling companies list off all the different things they won't recycle. Do you have a notice for that? Part of it is education. You think you're doing the right thing, but they don't even accept it, or they won't recycle it when you think it should be recyclable.

Mr. Mark Fisher: That's a great question.

Principally, that's why we're moving to extended producer responsibility systems right across the country, and B.C. has been leading the way on extended producer responsibility for years. There hasn't been consistency in terms of how programs are run, what types of materials are accepted at your curbside, and making sure that the industry that is making the products to be used is taking on the responsibility for managing that system. Within the next few years, as the whole country moves to extended producer responsibility, you're going to see a dramatic change in terms of the types of materials that can be accepted into those types of programs.

Mr. Ben Lobb: I have a couple of questions on this.

Plastic lawn furniture is one. When I make my trip to the local landfill, it's always littered with plastic lawn furniture. When would we stop that practice? Plastic toys are another. I don't think they recycle plastic toys, do they?

Mr. Mark Fisher: In terms of whatever format of plastic you're looking at today, there is a means to deal with that material. Typically, right now, through our mechanical recycling or our traditional recycling systems, it's your core materials—your number one plastics, your number twos—that have the greatest value. That's why they're being recycled and recovered the most. Even for the other types of materials or the ones that are harder to recycle—the flexibles, the films—there are solutions for managing that material. That's the first point I would make.

In terms of the material that's getting lost to our landfills, as I mentioned, an estimated 12 million tons, U.S. tons, are finding their way into landfills. That's because, for whatever reason, consumers at home who have access to a program at their curbside are inadvertently or purposely putting it into the garbage stream, and it's ending up in our landfills. There are definitely solutions to recover and direct that material to reuse opportunities as recycled content in new packaging.

● (1720)

Mr. Ben Lobb: There's too much packaging as well. I think we could all agree about the junk that comes in the mail and everything else.

Mr. Mark Fisher: For sure.

Mr. Ben Lobb: The municipalities shouldn't have to bear the responsibility for this. However, are there municipalities that are able to filter out the microplastics in their sewer or storm sewer systems so that they don't end up in the creeks, rivers, lakes and streams?

Mr. Mark Fisher: Yes. Again, it's a combination of solutions that we need to adopt.

As I mentioned before, extended producer responsibility is going to be a significant change. In terms of other measures, the number one item that we pick up on our streets, on our beaches and in our waterways is cigarette butts. I'm not sure how we're going to change that behaviour of flicking your butts out onto the street. We are working with companies and municipalities to install stormwater filtration systems, called litter traps and gutter bins, that can be easily removed and that catch this material when storm events happen that wash this material down into a drain.

These are systems that allow us to educate people about what's happening. I'm not sure that every municipality can put a filter into a drain in their municipality. It just wouldn't be practical.

Mr. Ben Lobb: Yes, that's fair enough.

Jason Taylor, if you're still there, you sound like the recycling man, the guy with the ideas. What about this plastic furniture, children's toys that the grandparents buy that the kids don't need, and on and on. Are there ways to recycle these into something useful, or are they a writeoff and go straight to the landfill?

Mr. Jason Taylor: In the U.S., I believe most plastic chairs are made out of polyethylene. That polyethylene can definitely be.... It's a low temperature. I'm sure you maybe sat in one during the summer, and it just squashed on you. It doesn't take a lot of heat to melt that down and to form it into another shape.

I'm sorry, but I don't have the company's name. This young fellow from Castlegar moved to the Canmore area in Alberta and set up a way to heat up the plastic and squash it down into sheet goods with a fibrous material in between to basically make plastic panelling or plastic sheet goods.

The plastic is with us forever. How do we reuse it and recycle it into other more long-term forms of use, rather than a plastic chair that lasts a few summers and then basically degrades to the point, just from UV exposure, that it then becomes brittle? Most of that plastic can be recycled or reutilized in different forms.

The Chair: Thank you. We're well over the time.

Mr. Ben Lobb: I have more time yet, for sure.

The Chair: No, you're a minute over, actually. He spoke for a long time. That's a nice try. It was the witness who was a minute over time. I'm sorry.

Now we will turn to MP Longfield for five minutes.

Mr. Lloyd Longfield (Guelph, Lib.): Thank you, Chair.

This is a really interesting conversation. Thank you to the witnesses for giving us your expertise.

I want to start with Mr. Fisher on regulations. The disconnect between provincial regulations and federal regulations was discussed earlier with Madame Pietrosel. In the Great Lakes, we also have to worry about the United States. The Canadian Council of Ministers of the Environment, from across Canada and from the provincial ministries, has agreed on getting to zero plastic waste by 2030. Regulations have to play a huge part in that.

Could you maybe comment briefly on the role of international regulations as well as national regulations in achieving that goal?

● (1725)

Mr. Mark Fisher: Thank you for the question.

It's critical, if we're going to really enable that systems change, to transition from a linear economy in which we take, make and dispose of materials to a circular one in which we have the value of this material, the chemistry of the materials, circulating in the economy for as long as possible at their highest value. That is going to require a significant systems change. That is one part regulatory, another part behavioural, and the third part is infrastructure.

On the regulatory side, to your point, the zero plastic waste strategy doesn't mean zero plastics; it means zero plastic waste. The CCME strategy that has been adopted by Conservative premiers, by Liberal premiers and obviously by this government, has really set a pathway. That's why you're seeing extended producer responsibility being adopted right across the country, such as in Ontario and Quebec. B.C. has had it for a number of years.

We're also starting to see extended producer responsibility at the state level in the U.S. There's a new U.S. bill that's been introduced in Congress. All of these things, when you put them together, are more or less aligned. That's going to create the regulatory certainty that you're asking for in terms of labelling, targets around recycled content in products and what have you.

Mr. Lloyd Longfield: We are in an integrated market with the United States, so if Canada, for whatever reasons, decides we don't need a regulatory system, how does that impact our relations with the businesses in the United States?

Mr. Mark Fisher: As you know, there are a lot of materials, including plastic resins and even recyclable materials, that are moving back and forth across that border, either for manufacturing or for recycling and final disposal. We have to think about this as an integrated marketplace, particularly in the Great Lakes, because most of our trade and commerce is north-south; it's not across the country.

Mr. Lloyd Longfield: Thank you. It's great to have an imperative that the Great Lakes area, as you said, is such a critical region in the world, in terms of trade, and to have effective regulations on plastics to get rid of the nanoplastics and the microplastics is critical.

I'd like to go over to Quebec, to Madame Pietrosel.

Thank you for your testimony.

On the regulation disconnects, if you have information you can provide to the committee, please do, so that when we're doing our recommendations, we can make sure we cover off these disconnects.

Can you briefly mention one or two that are very important for us to be aware of?

Ms. Marina Pietrosel: The deadlines have put in place different rates of recycling or valorization of the materials. The dates are not there to let the producer have better containers and packaging.

Second, I would like to go back a little bit on legislation, because we were talking about toys.... I'm speaking English for quite a while.

Mr. Lloyd Longfield: You're doing great. I have very limited time, so please do continue. If there are regulations on toys—

Ms. Marina Pietrosel: There are no regulations on toys, chairs and things like that. The products for long-term utilization are not in our EPR program, so—

Mr. Lloyd Longfield: Thank you.

I'm sorry to interrupt, but I do have a question for Mr. Taylor from Selkirk College.

I think it's important for us to highlight the importance of colleges in the innovation ecosystem and make sure that colleges are included in any type of research funding the federal government comes through with.

Mr. Jason Taylor: Absolutely. It's such an imperative thing, and it has been a great opportunity for us to incorporate that educational pathway for students as well. The NSERC funding for TACs is an example of something that could be in danger in the future.

Mr. Lloyd Longfield: We need to make sure that it isn't. You're providing our future green designers, so thank you for all the work you're doing.

The Chair: Thank you.

Now we'll turn to MP Blanchette-Joncas for two and a half minutes.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Madam Chair.

I'm going to continue with Ms. Pietrosel.

It's important to come back to the issue of coordination, with respect to the federal government's decision to ban plastics in 2030.

Can you go back to that specifically? You mentioned a 2025 deadline. Tell me what you think isn't feasible.

● (1730)

Ms. Marina Pietrosel: I'm going to answer a bit of what you asked me earlier, which is what the federal government can do.

First, invest in innovation to design materials that are recyclable and recycled.

Second, invest in the equipment needed for recycling, which will foster the emergence of local markets in each province. That will result in a better economy and a better circularity of materials. Not all materials are integrated into the circular economy. In fact, very few are. Investment is still needed. Without investment, we won't be able to get the materials we need.

I'll now come back to your other question. I'm sorry, could you remind me what that was?

Mr. Maxime Blanchette-Joncas: It was about the 2025 and 2030 timelines for zero plastic waste.

Ms. Marina Pietrosel: In terms of the timeline, the new regulations come into force on January 1, 2025 for selective collection, so blue bin, for recyclables, and on March 1, 2025 for extended deposit. That doesn't give producers enough time to reach the recycling rates prescribed by the government. A process to ecodesign, change packaging or replace it with packaging composed of a single material can't be done in three months. It takes at least a good year, because there is research and development involved.

Another thing the federal government can do is invest in researching materials and equipment. We have a lot of very interesting facilities in Quebec, as well as in British Columbia. We need more federal investment in these areas. There are investments in every province, but it's not enough for the major construction project ahead of us to meet the prescribed recycling rates.

Mr. Maxime Blanchette-Joncas: Thank you very much.

[*English*]

The Chair: That's great, and right on time.

For the last two and a half minutes, we'll turn to MP Cannings.

Mr. Richard Cannings: Thank you.

I'm going to turn to Mr. Fisher from the Council of the Great Lakes Region.

In your opening statement, you listed six areas that we had to really work on. I tried to write them down, but I must admit that I fell behind quite quickly.

I don't remember that you talked much about the “reduce” part of the solution, and we have to eliminate much of the use of plastics over the next five or six years. A big part of that has to come in the form of reduction, and that means moving to different materials or simply not needing them.

How has your work tackled that part of the problem in the Great Lakes region? What kind of initiatives are there to help us reduce plastics in the heart of industrial North America?

Mr. Mark Fisher: Thank you for the question.

From our perspective, we advocate reducing waste at source and looking at packaging alternatives as part of the materials management hierarchy. Source reduction is at the top, so we have to be talking about it. It's certainly not going to get you to a 50% recycling rate or a circular economy, but it is incredibly important. We work alongside a number of consumer packaging and goods companies headquartered in the region—such as Procter & Gamble in Cincinnati, Ohio, and SC Johnson in Racine, Wisconsin—that are doing tremendous innovations in their own packaging at that large-scale company size.

I just came back today from a sustainable packaging conference in Chicago, where there were 600 participants from the U.S. I can tell you that there are a lot of innovations happening that will allow for source reduction, including bio-based materials using seaweed, for example, which has almost the same properties as flexible film. Innovations are happening that are going to allow for source reduction.

Also, a final point I would make is this: We have to look at things on a life-cycle basis. I know that when we look at different choices, it might seem obvious that these are better than plastics. However, when you look at it from cradle to grave—GHG emissions, use of water and energy, or how many times consumers use that alternative product—the environmental performance isn't always better. Whatever the alternatives, we have to look at them through the lens of cradle-to-grave life cycles. Truly, what are the better-performing products we could be pushing consumers towards?

● (1735)

The Chair: Thank you.

What a nice, positive note to end our study on.

You are the last witnesses for this recyclable plastics study. Thank you, Mark Fisher, Jason Taylor and Marina Pietrosel for your testimonies and participation. Feel free to submit anything further in writing that you may wish to add and have considered.

We will meet again on Tuesday. We will do drafting instructions for this study and start reviewing the first draft of our U15 study.

Is it the will of the committee to adjourn?

Some hon. members: Agreed.

The Chair: The meeting is adjourned.