HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Transport, Infrastructure and Communities

TRAN • NUMBER 026 • 1st SESSION • 41st PARLIAMENT

EVIDENCE

Thursday, March 8, 2012

Chair

Mr. Merv Tweed

Standing Committee on Transport, Infrastructure and Communities

Thursday, March 8, 2012

● (0850)

[*English*]

The Chair (Mr. Merv Tweed (Brandon—Souris, CPC)): I call the meeting to order.

Good morning, everyone. Welcome to the Standing Committee on Transport, Infrastructure and Communities, meeting number 26.

Our orders of the day, pursuant to Standing Order 108(2), are for a study of innovative transportation technologies.

We have a number of witnesses joining us today: from Fleet Advantage Inc., Mike Greene, president and CEO, and David Dennis, executive vice-president and managing director, business development; from Chrysler Canada Inc., Larry Robertson; from Enterprise Holdings Inc., Ryan Todd; from Delphi Group, Bruce Dudley; and from AUTO21, Peter Frise.

We've had a little bit of a discussion, so I know you know what the drill is. I'll ask you to make your presentations, and then we'll move to questions from the committee.

Please begin, Mr. Dennis.

Mr. David Dennis (Managing Director and Executive Vice-President, Business Development, Fleet Advantage Inc.): Thank you for the opportunity to speak with you here today. On behalf of Fleet Advantage, witnesses in attendance, including Chrysler, Enterprise, and Delphi, and many others who could not be in attendance today, we sincerely appreciate the interest of the committee in our story. We hope that what you hear today you will see as an opportunity.

With your permission, and in the interest of time, I intend to focus on the key elements of the document you all have versus going through it in its entirety. If there are no objections, I'll just focus on the highlights.

My name is Dave Dennis. I'm the managing director and executive vice-president of business development for Fleet Advantage. Our parent company is InsightAction. We are essentially a business intelligence organization engaged in gathering and converting data into actionable insights to optimize asset performance for a variety of sectors, which are identified in the statement that you all have. Most pertinent to our conversation today is the work we do at Fleet Advantage in optimizing transportation and fleet asset performance.

In December of 2010, we were asked by the Canadian Renewable Fuels Association to first identify the barriers in making higher-blend ethanol available in retail and then to help them navigate those barriers.

We knew that the fleets we were working with could benefit in their efforts to reduce GHGs with the availability of alternative fuels like higher-blend ethanol, so we naively took the challenge on and started our conversations with the largest independent retailer of petroleum in Canada, Canadian Tire.

Canadian Tire had many questions that pertained to the entire alternative transportation and energy supply chain before they could responsibly move forward with the availability of any alternative transportation energy solution—questions that required expertise and perspectives from infrastructure, automotive manufacturers, and many, many more.

To be clear, at Fleet Advantage we're not experts in alternative transportation energy. We are a data-driven organization, and as such remain essentially fuel-agnostic. We knew that solely focusing on the Canadian Renewable Fuels Association's focus on ethanol would compromise our ability to do the broader work we thought was required. We quickly learned that this effort wasn't about an independent solution; rather, it was about interdependent solutions based on many varying factors involving the entire supply chain. We also learned that there was a huge void, inasmuch as no one seemed to be stewarding this conversation.

You can feel free to challenge me on that later, during the question period.

Now, largely financed by ourselves, we've been doing this benevolent work in terms of meeting with very senior leadership in every one of the segments that Canadian Tire had asked us to speak to, so that we could bring some intelligence and some collaborative input together.

What started as an ethanol project quickly grew to include other alternative transportation energy solutions as a result of the conversations we were having. We quickly observed that each, independently, had significant challenges, and all were at different stages of development in terms of being commercially viable as a transportation energy source. We also learned that they were quick to cast stones at one another in what must be a very difficult struggle for limited resources.

Our observation was this: why fight over a market that doesn't exist yet, instead of working together to create conditions for a market that all could participate in? We have heard many make the statement, which I'm sure you're no stranger to, that there are no silver bullets. Then why are so many behaving like they're waiting for one?

Let's acknowledge that each solution is imperfect but can contribute to the whole in different ways. Let's also acknowledge that this community of alternative transportation energy solutions is completely interdependent of a much broader community—the retailer in terms of availability, automotive manufacturing, fleet leadership, and public policy-makers, just to name a few.

The idea is simple: break down the barriers just enough so that this seemingly disparate community of influencers and stakeholders can collaborate for mutual value and agree to some needle-movers that would enable Canadians to benefit in every aspect of an alternative transportation energy supply chain that touches the economic well-being of many sectors, including energy, transportation, agriculture, technology, retail, and manufacturing, with different focuses by geography and utility. Such an alternative transportation energy supply chain could build on existing expertise to develop new business opportunities for Canadians, and in so doing create new jobs.

What about the promise of exporting leading technology, not to mention the health benefits that we would all benefit from?

I have to believe there is value in a private sector single-source entity like this alternative transportation energy community—which we've dubbed ATEC—that deals with this matter holistically to enable access to a collectively prepared perspective that touches such a diverse community of important influencers and stakeholders.

If the members here today see value in accessing this alternative transportation energy community, we will, together with our private sector partners, formally create ATEC as a not-for-profit entity that will be privately funded, so we're not here to ask for anything other than your ear. We just need to hear clearly that you support the notion in terms of an alternative transportation energy community coming together to provide input.

Think about having at this table a group that represented availability, such as Canadian Tire, working collaboratively with suppliers of new technology. I think of an immediate example of government fleets that create their own fuelling depots. That probably isn't necessary. Just reaching out to the various retailers that are available and working on a deal would mitigate that incremental expenditure.

There are many other examples that I've included in my notes, just to name a few.

We have here with us Enterprise Holdings. They represent over one million cars globally, and many cars in Canada, that are controlled under a central decision-making authority. They are representative of fleets that exist out there, not dissimilar to the North American fleet association and many other fleets we work with. You can work with them to steer support for an infrastructure to get things started.

We have supply in terms of the various technologies that exist out there; we have demand in terms of the fleet leaders we can talk to, who represent 10% of the vehicles on the road today; and we have availability in terms of the retailers we're talking to, just to name a few. These are businesses coming together to collaborate for mutual value. This is the private sector coming together to work with government in assisting the process of aligning private sector needs with public policy to create new business opportunities and jobs for Canadians.

Our proposal is simple: if the members here see value in creating a group of key stakeholders and influencers that are representative of an alternative transportation energy community, we'll build it for you.

That's essentially the end of my statement. I'm not sure if we go to questions or if Peter speaks next.

● (0855)

The Chair: I'm going to ask Peter to present—

Mr. Pierre Poilievre (Nepean—Carleton, CPC): I have a point of order.

The Chair: Go ahead, Mr. Poilievre.

Mr. Pierre Poilievre: I just noticed that we have a very large roster of witnesses—

The Chair: There are two presenters.

Mr. Pierre Poilievre: Okay. I think it would be most helpful if we could just find out what the innovation is that they're proposing, why it's good, and what we need to do.

The Chair: Go ahead, please, Peter.

Dr. Peter Frise (Chief Executive Officer and Scientific Director, AUTO21 Network of Centres of Excellence, Auto21 Inc.): My name is Peter Frise, and I'm the scientific director and chief executive officer of AUTO21, which is Canada's national automotive research network. I'm a mechanical engineer and I helped found the first automotive engineering program in Canada, at the University of Windsor, in 1998.

As many of you will know, the automotive market has rebounded quite strongly in recent months, which is good news for all Canadians because of the important place this industry holds in our economy. However, the auto industry faces a new challenge following on the heels of the recession in 2008 and 2009. This new challenge is the rapidly changing fuel economy regulations, known as the corporate average fuel economy, or CAFE standard, in the United States, which is mirrored here in Canada by our drive to reduce greenhouse gas emissions, or GHGs.

CAFE standards are an extraordinarily complex topic, but essentially, to be eligible for sale in the United States, new cars are required to achieve a 40% better fuel economy by 2016 relative to their 2010 ratings. This is an improvement at a rate that is many times the usual rate of progress in fuel economy. There are moves afoot to enhance fuel economy even more radically by 2025.

Here are the numbers: the present CAFE requirement is about 9.26 litres per 100 kilometres, or about 25 miles per U.S. gallon. In 2016 it will move to 6.6 litres per 100 kilometres, or 35 miles per U.S. gallon, which is a 40% change from 25 miles per gallon; by 2025 it could go to 4.3 litres per 100 kilometres, which would equate to about 54 miles per U.S. gallon.

This is a very complex topic, but those are the round numbers.

These regulatory changes represent very strong challenges to the entire automotive value chain. Achieving these improvements will take far more than evolutionary changes in future vehicles, for a number of reasons.

Aside from driver behaviour, the largest factors in vehicle energy consumption are the weight of the vehicle and the aerodynamic efficiency of the vehicle. Studies have shown that a 10% decrease in vehicle weight can improve fuel economy by 2% to 4%. A 10% to 11% aerodynamic improvement can result in a 5% fuel economy gain.

This depends on what kind of driving you're doing. On the highway, aerodynamics are more important. In city driving, weight is more important. It doesn't matter what kind of car you're talking about. Whether it's a big car, little car, or electric car doesn't matter; those numbers are good for just about any kind of car.

A 10% decrease in vehicle weight is an extremely tough goal to achieve, but even that amount will not get us to where we need to be. The other difficulty is that decreasing vehicle weight can have a major impact on the cost of vehicles, the efficiency with which they can be manufactured, and most importantly, with occupant safety.

This balancing of vehicle performance with safety and cost is a critical factor in the future competitiveness of every nation's automotive manufacturing sector. That is why every entity participating in the automotive industry must become more innovative and bring new ideas and technology to the market at an unprecedented rate.

Personally, I am concerned that Canada's automotive parts industry is entering this era when innovation is even more important than ever before at a time when studies have shown that business investment in R and D in Canada is low; as well, our innovation support programs are also comparatively smaller than those of competitor countries.

For that reason, each of the major automaking countries is providing some form of very active R and D assistance to its own industry to ensure they can meet the challenges of CAFE by bringing lighter, more innovative products to the market, while maintaining vehicle safety at reasonable cost targets, and thus win new contracts to supply parts for future car models.

AUTO21 has been a major Canadian success story in the innovation landscape. The key to that success is the requirement that each project have an industry partner that co-invests in the project with AUTO21 and stands ready to take the knowledge from the research teams and commercialize it for Canada.

The co-investor requirement is what we call a market pull approach, and the requirement for an external partner is called a knowledge receptor strategy. They are foundational to how AUTO21 commercializes research. We know where the knowledge is going before we even start the project.

● (0900)

The market pull-knowledge receptor approach, coupled together, is used by AUTO21. It's quite different from many other Canadian programs. We feel it's foundational to how future progress will be made in this industry and in many others, such as aerospace, information technology, telecommunications, and so on.

In conclusion, let me say that I believe government investment plays a vital role in supporting innovation in the economy by providing specialized people and facilities that industry simply does not need all the time but can certainly benefit from on a periodic basis. Those people and facilities are often at universities and in public sector science labs, so organizations like AUTO21, which can broker relationships and help to buy down the risk of R and D in Canada, can often help make the difference between innovations being developed here or abroad and whether our country benefits from them or people in other countries.

As a follow-on strategy, I can tell you that the AUTO21 board of directors is developing a follow-on program to AUTO21 when it sunsets in 2015. We are presently in active discussions with industry to make sure this program will work for industry, and we would welcome an opportunity to talk about our plans with the government as well.

Let me just say also that I'm quite happy to talk to your committee about particular innovations as well.

Thank you very much.

The Chair: Thank you very much.

Ms. Chow is first.

Ms. Olivia Chow (Trinity—Spadina, NDP): Thank you.

My question is along the lines of Mr. Poilievre's. Is it the Transport Canada certification that is the barrier? What is the barrier that would make it difficult for a company that has discovered or has proven that a certain technology works?

I'll use an example that I know very well, trucks. We know European trucks have side guards that, because it's aerodynamics, reduce greenhouse gases. The fuel reduction is about 10% on average, some are even at 20%, depending on the design. That's just one example. There are many other types of examples.

What is the barrier? Is it the certification of Transport Canada, or is it the lack of manufacturing in Canada, or is it synchronizing it with the U.S. market? In this case there's no manufacturer in Canada that does it. It's mostly European. It's German, Dutch, etc.

What is it precisely? I've heard from both of your presentations that you're saying people are not working together. Your line, I think, Mr. Dennis, is that it's not in the market yet, so we should wait. You said why fight over a market that doesn't exist yet, versus working together to create conditions for a market that they could participate in. What are those conditions that would create the market? Is it Transport Canada or the minister saying that a technology works and then providing some initial funding? What kinds of barriers are in your way?

I know it's a vague question, but both of your presentations did not zero in on the precise problem.

● (0905)

Mr. David Dennis: I appreciate the question. Understand, we have come here with two different perspectives that actually are aligned.

We fell into a conversation quite by accident to enable the fleet leaders we work with to find other ways to reduce their harmful emissions. That conversation really talked about the need for private industry to take control of a collaborative strategy to properly advise....

The questions you have here today can be properly answered with a collaborative input. Our first notion that this was taking shape was when we sat with the president of Canadian Tire Petroleum. He said nobody has talked to him about any of this. They want to participate; they just don't know how.

When we've gone down to Chrysler—and Chrysler has been incredibly generous with their time—they've pulled together an entire global sustainability team for two or three hours at a time. It's not dissimilar to GM and others.

What has occurred to us—and openly we acknowledge that we're novices in the conversation, and perhaps that gives us an advantage—is that nobody is bringing these stakeholders together. We had an event last week where we presented to the energy, trucking, and auto caucuses, and they seemed to get it right away.

We brought with us a kind of community that's representative of the broader stakeholder community we're talking about, and they all say the same thing: "We think we owe you some direction. We think we owe you some collaborative input. We'll never agree to everything, but we think we can agree to a few fundamental things."

Today we're not going to be able to give you the clarity and pinpointed direction you require, but I have absolute confidence that's exactly what the stakeholders of this community intend to do.

I'm hoping that provides a little more colour and texture.

Ms. Olivia Chow: I've met with the trucking association—the president and their staff—twice. They said they're open for any kind of technology as long as it's proven that it's aerodynamic, it will save fuel, and the payback period would be two years or three years, not 20 years.

Then they would be game. They'd be willing to do it. However, they're waiting for the manufacturing industry to jump on board, and then Transport Canada. There seems to be no platform where they can all get together and say, "Okay, it's been working in Europe for 10 years. How come it's not here?"

Mr. David Dennis: I completely concur.

Ms. Olivia Chow: How does it start, though? Where does it start? How does it get pulled together?

Mr. David Dennis: Thanks to our present CEO, we've spent several hundred thousand dollars of our own money. There's no financial return or reward for this, just so you know. We've continued to do this because we felt that it needed to happen and in our humble opinion it was a travesty that these stakeholders weren't getting together.

Let's use your exact example. Wouldn't it be wonderful if the trucking industry, in collaboration with the customers who utilize their services and other stakeholders, came to the table and addressed the issues of the day? It's democracy taking place. Everybody gets input. You'll never agree to everything, but what we discovered....

To illustrate the point, we've created a movie. We presented it to the Canadian Renewable Fuels Association conference. By the way, we don't make movies. We videotaped it and pulled it together.

However, to illustrate the point, we said, "We're sitting here with these global leaders, influencers in Canadian business in a wide variety of industries, who all have a collective interest. What if we asked them three unaided questions? I wonder what they would say."

So we did. We asked them three unaided questions. This included the global leadership from Chrysler; Enerchem, out of Quebec, in terms of some of the wonderful things they're doing; Iogen; and the University of Michigan. We said, "Do you care about sustainability?" Everybody answered differently, but kind of the same.

We asked, "If right now we pour petroleum products into our fuel equation, how do you see the future?" Everybody hasd different ideas, but there is a consensus that brews there as well.

Then the last question we asked was, "What needs to happen?" They all said essentially the same thing.

That was just one example. We're saying we're never going to agree to everything, but there's this hunger, this thirst, to bring a community together to figure out how to navigate this.

● (0910)

Ms. Olivia Chow: What role does the government play?

The Chair: I have to stop you there now.

Go ahead, Monsieur Coderre.

[*Translation*]

Hon. Denis Coderre (Bourassa, Lib.): Thank you, Mr. Chair.

I get the feeling that our witnesses today want a group hug.

[*English*]

It sounds like a group hug now. Maybe I just didn't have my coffee yet.

[*Translation*]

Mr. Dennis, I am trying to understand. So you are saying that the private sector partners are ready to make their contribution. You are actually telling us to use you. Is that correct? The message that you are sending is that you are ready to be part of the solution, but that you are waiting for the government to take action. Is that the message you are sending today?

[*English*]

Mr. David Dennis: Thank you for the question.

I don't think we're waiting for anything. What we've discovered is an appetite to proactively participate in a solution and get involved. One of the things we've shared in terms of some of the stakeholders at the table today, and many others, is that I don't think we can come with our hands out. We have to come funding our own initiative and our own collective input. We have to be representative of private enterprise and the private marketplace to enable policy-makers to responsibly navigate.

It's as simple as knowing we have an appetite, through the people you would want to talk to.... Boy, I can't imagine what you do when all these people and special interests groups are pulling you 17 ways from Sunday and somehow you have to find your way. This is an opportunity for one-stop shopping for you to get the popular wisdom or will of broad industry.

[*Translation*]

Hon. Denis Coderre: In other words, you would like recommendations in order to be able to find solutions. So it is a question of structure not of something specifically related to innovation. You would like a type of PPP or

[*English*]

a one-stop shop where we can all discuss together and have one place to discuss and decide, right?

Mr. David Dennis: Yes.

Hon. Denis Coderre: You might have your group hug afterward.

The Liberal party believes in that. I think we're all part of the solution because you're creating the cars and all that.

Let's be more specific, then. Which one should we focus on? We're at the table; everybody is here now, and we can all talk together. Let's go to some specifics. You spoke about ethanol. I'm not sure it's working that much on an environmental basis. I'm from Quebec, so electricity might be in order. Natural gas is an option; it's great. Where should we go first? Should we just have a bunch of options?

You're from the private sector, so you know that time is money too. You have to be focused. Where should we focus?

Mr. David Dennis: That's another excellent question.

Hon. Denis Coderre: Chrysler looks like they want to talk.

Mr. David Dennis: Go ahead, Larry, by all means. I didn't get a hug, though.

Thank you.

Hon. Denis Coderre: He wants a hug, too.

Mr. Larry A. Robertson (Manager, Vehicle Environmental and Energy Programs, Engineering and Regulatory Affairs, Chrysler Canada Inc.): As Dr. Frise mentioned, the challenge to industry will be enormous. The fuel efficiency improvements over the last couple of decades have been in the order of 1% and 2% per year. A lot of safety technology has been rolled in there. Vehicles today are computers on wheels, and more is coming.

● (0915)

Hon. Denis Coderre: That's true.

Mr. Larry A. Robertson: We have the challenge of this almost 50% to 100% improvement in the next 10 to 15 years. We don't know collectively where that's going to go on any particular technology. There will be a whole range of technologies.

Chrysler has been in the market in Canada with propane vehicles, natural gas vehicles, flexible fuel vehicles, ethanol and methanol, hybrid vehicles, and we're looking at electric. In fact, on Tuesday we announced the reintroduction of a natural gas pickup truck for the market. We believe in moving fuel infrastructure away from current fossil fuel use and looking at the use of renewables. Electrification has got to be part of that in the future, but it's going to be a whole mix.

Chrysler's portfolio is a full-line manufacturer from small cars to pickups—

Hon. Denis Coderre: I'll cut you off there, if I may.

Mr. Frise, you're the R and D guy. You have some government money. You have some researchers and all that.

Dr. Peter Frise: Yes, sir.

Hon. Denis Coderre: How do you work with the private sector, for example? Are you just providing some research? I noticed that you have something like 200 researchers and 38 projects right now. How do you work? It's just R and D and then you work with the private sector, too, or are you just an academic?

Dr. Peter Frise: It's actually a very effective model. When we put out a call for proposals, essentially the researchers will go to the industry to find out what the key problems are. Then the industry and the researchers will do a due diligence to ensure that there really is the capability there—that the researchers have the capability that the industry needs—and then they make a proposal to us.

On the front of the proposal, essentially the top part of the sheet is what they are asking AUTO21 for, the public sector part of the funding.

The bottom part of the sheet is what I refer to as the “who cares” part. I need to see that Mr. Robertson's company is interested in this project and how interested they are. If it's $50,000 year, that's pretty interested. Then the details of the project follow. What are we actually trying to achieve? What methodology are we going to use to do it? What is the commercialization plan? That part of it usually comes from the industry people, because I've checked very carefully, Mr. Coderre, and there isn't a single university in Canada that has an automotive assembly plant. We don't build cars—

Hon. Denis Coderre: You'd be surprised that in the polytechnics there are some electric cars, though, so you should rephrase that.

Dr. Peter Frise: We have four or five of those too.

Hon. Denis Coderre: Thank you.

Dr. Peter Frise: The point is that the role of the universities is to create knowledge and educate people. The role of business is to commercialize knowledge and create money, jobs, and wealth for Canadians out of it, and for their shareholders.

Hon. Denis Coderre: You mean through the public-private partnerships.

Dr. Peter Frise: Exactly.

Hon. Denis Coderre: That's what it counts for.

Dr. Peter Frise: Exactly.

The Chair: Go ahead, Mr. Poilievre.

Mr. Pierre Poilievre: Mr. Robertson, Chrysler has, I understand, recently put forward a proposal for natural gas-powered truck. Is that correct?

Mr. Larry A. Robertson: It's not a proposal; it's an announcement of production.

Mr. Pierre Poilievre: Right.

Mr. Larry A. Robertson: The first factory-produced natural gas vehicle, or the most recent factory-produced natural gas vehicle, is expected to be available in July.

We at Chrysler had been in the market for about eight years in the late 1990s and early 2000s, but the market dried up from a lack of incentives to keep programs going and lack of fuelling infrastructure.

There seems to be a renewed North American interest in that particular energy source. Chrysler found an opportunity to work on our previous experience and also with our alliance through Fiat to bring the natural gas technology of Fiat back to North America.

Mr. Pierre Poilievre: Where would those be manufactured?

Mr. Larry A. Robertson: They will be built in Saltillo, Mexico.

Mr. Pierre Poilievre: Are there any regulatory obstacles to having those built there, but purchased here?

● (0920)

Mr. Larry A. Robertson: Not at this point. They will be treated like any other vehicle. We build several models of cars and trucks in Mexico, and they're sold in U.S. and Canada. They are built to market.

Mr. Pierre Poilievre: Are there any government obstacles to mass production and the retail sale of natural gas-powered vehicles, as you see it?

Mr. Larry A. Robertson: There aren't at this point in time, but we did have an issue with CNG when we first brought them out. We actually built them in Windsor, Ontario, at our old Pillette Road assembly plant, but for first two years of production we could not sell them in Canada because the pressure vessel codes were not harmonized with the U.S. We could only sell that product in the U.S.

Mr. Pierre Poilievre: Are the codes now...?

Mr. Larry A. Robertson: They are, but I'm using that as an example of how as the technology comes to market. Sometimes, given the regulatory hurdles—I think this relates to Ms. Chow's question—it takes some time to make sure everything works on both sides. We need the flexibilities and the speed to make sure safe technology comes to market without the burden of regulation, be it from the U.S. or Canada.

Mr. Pierre Poilievre: If you can identify regulations that inhibit any of your technologies, please get them to us before the conclusion of this study, because we can look at them and potentially recommend change. You don't have to do it right now.

Mr. Larry A. Robertson: No.

Mr. Pierre Poilievre: I'm just opening the door for you to do that.

Mr. Larry A. Robertson: That will be difficult. Thank you for that opportunity, but it has happened before when—

Mr. Pierre Poilievre: Fair enough—

Mr. Larry A. Robertson: —technology comes to market faster than regulations can accept it.

Mr. Pierre Poilievre: The offer is there.

Mr. Larry A. Robertson: Thank you.

Mr. Pierre Poilievre: If you have suggestions, we'd be happy to look at them and potentially make recommendations to help you remove some of the obstacles.

Mr. Larry A. Robertson: Thank you.

Mr. Pierre Poilievre: The electric battery was invented in the year 1800. It has been 212 years, yet we can't produce a battery right now that can retain large amounts of electricity so that it can be put onto the grid during peak hours. We don't have a battery, at least it does not appear that we have a battery, that can provide vehicles with the ability to compete with internal combustion fossil fuel-powered cars.

What is the holdup here? Why is it that humankind has made so many incredible advances in transportation technology and personal computers, etc., but we don't appear to have made a corresponding progress in the electric battery?

Dr. Peter Frise: I'd be happy to respond to that.

From 100,000 feet, if you like, one of the most difficult technical things to do is to store energy. We're really quite good at transforming energy from one form to another, but storing energy is very difficult, as you identify.

I would say you're absolutely correct. Up until about 1992, not very much progress was made on battery storage after World War II. The batteries that people were putting in the very first generations of electric cars were not fundamentally different from the batteries in a World War II submarine. They were very heavy. They had very limited capacity; equally important, although less visible to the user, was that it took a long time to charge them, so this really limited their utility in mobile applications such as cars.

In that time frame in the 1990s and since then, lithium battery chemistry has evolved to the point where it really is quite remarkable. The progress has been quantum since then. When we started AUTO21 in 2001, battery vehicles were not really a big factor, and many people confidently predicted they would never get anywhere. Well, they're starting to come on the market now, and for certain applications, they actually are a pretty good choice for certain motorists for certain kinds of use.

The barrier is simply a scientific progress issue. New battery chemistries are being developed all the time that have higher energy capacity, can accept a charge more rapidly, and are lighter in weight. The big problem is cost and overall capacity. That's why, for instance, we have concentrated so strongly on lightweighting the car; lightweighting really is a fundamental technology.

Mr. Pierre Poilievre: Thank you for that.

If you can provide us with any examples of where a government regulation or fiscal policy is in any way an obstacle, please provide that to the committee at your earliest convenience—

● (0925)

Dr. Peter Frise: I will.

Mr. Pierre Poilievre: —so that we can potentially include it in our report.

Your organization, AUTO21, receives approximately $11 million a year.

Dr. Peter Frise: That's $5.8 million, actually.

Mr. Pierre Poilievre: You receive $5.8 million.

Dr. Peter Frise: Yes. The $11 million is our overall research budget; that includes about $6 million of industry money.

Mr. Pierre Poilievre: What tangible results can you show for it?

Dr. Peter Frise: Since 2001...first of all, I would be quite happy to provide you with a detailed report.

Mr. Pierre Poilievre: Please do, but please give just a quick report on the innovations that you have produced with that money.

Dr. Peter Frise: Sure. They would range across the full spectrum of the automotive value chain: improved alloys of aluminum; better metal casting performance for cylinder heads made in Windsor, Ontario, and for wheels made in British Columbia; improved metal forming for metal stamping done throughout the automotive value chain; better analysis capabilities.

When you stamp a piece of metal, you want the metal to be as strong as possible. The problem is if it's too strong, you can't stamp it into the correct shape, so we've worked out methods of stamping higher-strength alloys of steel.

Mr. Pierre Poilievre: Could you provide us with a table that lists all the technologies that your organization has helped develop since 2000, the precise role that your organization played in the development of that technology, and where that technology is now employed?

Dr. Peter Frise: Yes, we can provide that.

Mr. Pierre Poilievre: Thank you.

Mr. Jeff Watson (Essex, CPC): Thank you, Mr. Chair.

Add to that the clek booster seat. I have one in my car.

Has the focus of your research and development changed since your inception in 2001? What factors are changing what you're researching?

Dr. Peter Frise: AUTO21 is organized around six research theme areas: health and safety; social issues; materials and manufacturing; powertrains, fuels, and emissions; design processes; and intelligent systems and sensors.

Within each of those areas are a number of projects.

As I said, when we started, electric vehicles were not a key factor. A lot of work was being done in fuel cells. To be candid, fuel cells have diminished in importance and their overall viability for automotive applications is now, I would say, in some doubt.

Battery performance has improved to the extent that battery vehicles are now a viable alternative. A huge amount of work is still to be done, so our work is now focusing on battery vehicles.

We also do a lot of work on biofuels, and AUTO21 was probably the first organization in North America, certainly in Canada, to support research into biobased plastics, a lot of which is being done in the province of Quebec and with researchers in the wheat belt area of Canada as well as in southern Ontario.

Mr. Jeff Watson: With regard to the electric car, GM sold about 8,000 Chevrolet Volts last year, promising they would deliver 20,000 in sales. This year they're promising 100,000 in sales. How realistic is it to expect an electric car that can replace the full capabilities of a gas-powered car? How far off are we?

Second, if you can estimate, how much research and development investment between here and there is expected?

Dr. Peter Frise: At present, I would say that none of the products on the market can replace a full-up family vehicle. They tend—

Mr. Jeff Watson: I have six kids.

Dr. Peter Frise: None of those cars will carry six children. I would say we're not quite there yet. There are significant issues around range as well as cost.

Mr. Jeff Watson: How far away are we—10 years, 15 years? How many billions in R and D between here and there?

Dr. Peter Frise: I couldn't estimate that number, Mr. Watson, but it would be significant, and in terms of years, it could be significant.

Mr. Jeff Watson: What are Canada's rankings for both public and private R and D, roughly? You can ballpark it.

Dr. Peter Frise: I would guess that on a per capita basis, we're probably something like second or third in the world in public sector support of R and D. Private sector investment in R and D is significantly lower. I would guess somewhere below 15th.

Mr. Jeff Watson: Automotive Partnership Canada was created to bring the granting councils together to try to put some more money behind R and D. To this point, I think the most significant project is a hybrid motorcycle, which to me seems a novelty item, if you will. I'm not sure if that's the right priority.

How do we get companies to invest more in private research and development? I imagine their priorities may be a little different sometimes from what we think are the important projects.

● (0930)

Dr. Peter Frise: That's a really difficult issue.

We in AUTO21 are continuously oversubscribed. Typically, we turn down about 75% of the projects that are proposed to us. It has to be said that some of those projects would not be eligible for our funding because they don't have industrial partners, but most of them do.

There's nothing wrong with being oversubscribed. That just shows you have a good idea.

Mr. Jeff Watson: What are you funding typically in a project?

Dr. Peter Frise: It is typically between $100,000 and $200,000 per year, and a large part of our funding goes toward the training of students. That's part of our mandate.

I think that brings up another difficulty. I think there are some difficulties with Canadian program design, if I may say so, so we always attach a training component to every R and D project.

I think it's good to train people and that it's important for the future of our country, but if the goal of a given program is to improve the competitiveness of companies, then I think that's what the program should do.

Mr. Jeff Watson: How does our intellectual property patent process stack up against other countries in the world in terms of commercialization and encouraging companies to go down the road of innovation?

Dr. Peter Frise: Our IP policies in public sector science in Canada are not competitive.

Mr. Jeff Watson: What needs to change?

Dr. Peter Frise: They need to be simplified and harmonized so that the same regime applies across the country.

As I said earlier, universities don't make cars, so I don't see the great benefit in people trying to own a lot of IP. In AUTO21 we put the IP as much as possible into the hands of the knowledge receptor as quickly as possible.

Mr. Jeff Watson: In your opinion, what's the largest single driver or focus of Canadian research and development today? In previous panels there was the question of climate change or the policy objectives of government. Do they distort where private research and development would otherwise go, or is government on board with where private R and D is going? What's the interplay there?

Dr. Peter Frise: That's maybe too complex a question for a brief answer.

We have to make sure that our economy is competitive and that our people have jobs. It's quite possible to do that at the same time as having a clean environment. That's what every responsible engineer in the country is trying to achieve.

Mr. Jeff Watson: Is that where private R and D was going—

The Chair: I have to interrupt there and invite Mr. Nicholls.

Mr. Jamie Nicholls (Vaudreuil-Soulanges, NDP): Thank you, Mr. Chair.

Thank you for your presentations. They were quite informative.

I have a specific technology question for Mr. Frise.

Has AUTO21 done any research into textile use for the skin of automobiles, such as polyurethane-coated spandex, as in the GINA project that BMW did in 2008? What are some of the challenges of using textiles for lightweighting in urban environments?

Dr. Peter Frise: We have done a lot of work on composite materials that are related to textiles. The GINA project was never intended to be a commercialized vehicle; it was a concept, almost an art piece, if you like.

I think some of the challenges are safety issues, potentially fire problems. I guess there would be some substantial difficulties in manufacturing a vehicle like that at a manageable cost. It's one thing to build a concept vehicle that costs $5 million, but you're not going to sell very many of them. The production rate would also be a problem, because the kinds of manufacturing processes they went through just don't lend themselves....

At Mr. Robertson's company's factory in Windsor, Ontario, a new minivan comes off the line every 42 seconds. You simply can't build those vehicles. If you go to the Chevrolet Corvette assembly plant in Bowling Green, Kentucky, I think the tack time there is about 15 or 20 minutes. Every 15 minutes or so a new vehicle rolls off the line. That's okay because those cars cost $100,000 and they only sell a few, so they can just make a few and make money on them. It's not a mass-market car.

There are all kinds of technological barriers around introducing new materials. That doesn't mean it can't be done. Modern cars are quite different from what you found 20 years ago, but the investment required is in the many billions of dollars, and it just takes a long time to spool those things up.

● (0935)

Mr. Jamie Nicholls: Okay, but is it an avenue that in the future looks worthwhile—using textiles and composite materials, as you mentioned?

Dr. Peter Frise: Composite materials have a really good potential for the future, and they are being used today. There are technology barriers that are being worked on. We have worked in composite materials.

To Ms. Chow's question, we have worked on the fairings underneath the trailers of trucks to protect the inside impact and improve the aerodynamics of the vehicles. Our new research program, which commences in 23 days, has a project directly in that area.

Mr. Jamie Nicholls: I've heard a lot of questions from my colleagues about how you've brought university researchers and private sector partners together. Can you speak to us a bit about the process of bringing university researchers together with these private sector innovators and maybe elaborate on an example that was a particular success?

Dr. Peter Frise: Sure. One of the difficulties in a modern factory is that different products are produced at different times of the day or in batches, and it's important that the pieces of machinery in the factory be able to communicate with each other to say that we have a model A coming down the line now versus a model B. Factories become very information system intensive places.

In times past, every time a new information system was installed in a factory, there would be a huge amount of wiring put in. If you go into a modern factory that's been around for even five or eight years, you'll see layer upon layer of information cabling throughout the factory. This becomes just a mess. It's very difficult to maintain, and it's very difficult to troubleshoot. If something goes wrong, if a connection is broken, it can take hours or days to fix it.

We have a researcher working with an automation company in Oldcastle, Ontario, who has developed wireless communications between machines at low cost. It's very effective and very secure, so you can't hack into it. Somebody couldn't sit in the parking lot and mess up your metal-forming press, if you like. That same company is also developing vision systems that have the capability of recognizing facial features, again at very low cost and very quickly. For instance, they can mount a camera in a rear-view mirror of a car and they can tell if the correct person is sitting in the driver's seat. If the correct person isn't, they could disable the car.

There are all kinds of examples. We have many others where a company had a technology need, there was a market need for it, we were able to find a researcher who had that capability, and the researcher and the company came together and developed a new product that is now on the market.

The Chair: Thank you.

Go ahead, Mr. Holder.

Mr. Ed Holder (London West, CPC): Thank you very much, Chair.

Thank you to our guests for coming today and sharing your insights.

I'd like to remind all panellists that what we're doing here is a study of innovative transportation technologies.

Mr. Todd, you've been a little quiet, and I'd like to bring you into the conversation if I can. Certainly all of us know Enterprise, Alamo, and National, and we know how large a fleet that is in Canada and the United States.

I was thinking about our study, thinking that one of the things we've talked about is alternative fuels and the like. Then I thought about your business, and I thought that when I rent my car from Enterprise, you don't care whether I use ethanol or whether I use whatever fuel, because the consumer pays for it. That's part of the arrangement you have, and it's always a good idea that we gas it up before we give it back to you; otherwise, it's a little bit more interesting. I appreciate the service you provide.

I'm wondering what contribution your being here makes towards our study of innovative transportation technologies. Where do you fit into all of this, if I could ask you, please?

● (0940)

Mr. Ryan Todd (Vice-President, General Manager, Ottawa Group Headquarters, Enterprise Holdings Inc.): Thank you for the question, Mr. Holder. Thanks for involving me this morning.

Our role here is simply that we're a retailer. We're a privately held company that owns an enormous fleet; we buy and sell more than 60,000 vehicles in Canada on an annual basis. Our role is simply to provide the product to the end-user, and of course the end-users are in communication with us constantly on what their needs and wants are, their desires. In working with organizations such as Fleet Advantage and our manufacturing partners on an ongoing basis, that's the ultimate goal.

Mr. Ed Holder: Then I might ask you, Mr. Todd, if there is any intent....

You know we all look for reducing greenhouse gas emissions and all that part of it. In our last session we had folks from the Canadian Propane Association and from Encana talking about propane and natural gas. There's a large fleet in my city of London, Ontario, that has made a commitment, and all of the vehicles are propane-driven.

Is there any intent from your company to try to make a contribution to the reduction of greenhouse gas emissions or to consider that the fleets you use for your purposes would contribute to a positive reduction in greenhouse gas emissions? Has that been any consideration at this time?

Mr. Ryan Todd: Absolutely. It's part of our sustainability platform. The future of the passenger vehicle needs to be socially acceptable—

Mr. Ed Holder: How are you doing that?

Mr. Ryan Todd: Well, we've donated nearly $40 million to the institute for renewable fuels in the U.S. As well, we currently have nearly 9,000 hybrid vehicles on the road today, which may not seem like an enormous number, but due to availability, that's a pretty strong effort on our part. More than 70 locations in North America have been designated as hybrid locations.

Mr. Ed Holder: Do you have those in Canada as well for hybrid vehicles?

Mr. Ryan Todd: Today we don't have a designated hybrid vehicle location, but it's coming. Working with partners in Canada, we hope that the electric vehicle will become more of a viable option, especially in terms of availability. That certainly is in the works.

We have a car-sharing operation, and our long-term goal is to merge that in some way, shape, or form with our daily rental operations and also combine the newest technologies to provide lower-emission vehicles along the way.

Mr. Ed Holder: Thank you for that.

Mr. Dudley, we've also not heard from you. I was trying to understand Delphi's connection to all of this. I appreciate your role in sustainability services, but I'm trying to get a sense of how you fit into this dialogue as well.

Mr. Bruce Dudley (Senior Vice-President, Delphi Group): In addition to providing a sustainability strategy and a carbon strategy for private sector companies, we also spend a lot of time looking at technologies. No company looks at technology and what I call technology policy without understanding the commercialization gaps and barriers. I think what we have found in the discussion with this coalition is that the private sector has the interest and the ability to overcome some of the significant challenges, including infrastructure investment, so it—

Mr. Ed Holder: Do you focus in the transportation sector at all, then, Mr. Dudley?

Mr. Bruce Dudley: Pardon me?

Mr. Ed Holder: Do you focus in the transportation sector?

Mr. Bruce Dudley: Yes, we do.

Mr. Ed Holder: You do. In what aspects, please?

Mr. Bruce Dudley: CN is one of our major clients. We've done multimodal transportation protocols for carbon reduction.

Mr. Ed Holder: Thank you.

I wonder, Mr. Frise, if I could ask you to undertake something. Mr. Poilievre asked that you provide a list of the various projects that you've historically worked on and the costs associated with them; I'm going to ask if you could add the value as well.

In other words, when you refer to commercialization, do you have any sense of what the commercialization value in the marketplace today is in relation to all the projects you've undertaken?

Dr. Peter Frise: Yes. We had an independent study done of the economic impacts of AUTO21.

It was done by the Center for Automotive Research in Ann Arbor, Michigan, which is a very authoritative group. They're the group that Industry Canada typically hires to do their econometric studies on the auto industry. They're also used by the White House and the U.S. Congress, as well as many industry bodies. We chose them specifically because they were independent of Canada and didn't have an axe to grind for this university or that university and so on.

Incidentally, the funding used for that study was not public funding; it was industry money that I raised.

The study found that a selection of the AUTO21 projects between 2001 and 2009 will create economic benefits for Canada on the order of $1.124 billion when the research is fully implemented. That represented a public sector investment by the people of Canada, through AUTO21, of $52.3 million. That's a 22:1 return on the investment.

I can give you a couple of examples. One of the most obvious ones, actually, is not a technology project, but it's a very interesting project on vehicle theft, which was a very serious problem in the city of Winnipeg, Manitoba. Our research and interaction with the Winnipeg Police Service, the Manitoba Attorney General, and Manitoba Public Insurance is credited with decreasing auto theft in Winnipeg by over 86%.

These kinds of research projects have very strong benefits to Canada when you connect the researchers directly with the users of the knowledge.

We have had that study done. I'd be happy to provide you with a copy of it. Incidentally, they did a supplementary study that projects out to 2020, and it's up in the range of $2.5 billion.

Mr. Ed Holder: Thank you.

● (0945)

The Chair: Thank you.

Mr. Sullivan is next.

Mr. Mike Sullivan (York South—Weston, NDP): Thank you, Mr. Chair.

Thanks to all of you for some very insightful knowledge, and some questions for us, actually.

However, I have questions for you: how much of Canada's current on-the-road vehicles are fleets?

Mr. David Dennis: It's roughly 10%.

Mr. Mike Sullivan: Therefore a 50% reduction in the fuel efficiency of fleets will result in a 5% reduction in greenhouse gases, or something like that.

Mr. David Dennis: That's fair to say.

Mr. Mike Sullivan: My second question is for Mr. Frise. You talked a bit about how the CAFE standards drive innovation to a certain extent—

Dr. Peter Frise: That's right—

Mr. Mike Sullivan: —but you said that a regulation forces manufacturers to actually change their vehicles; the regulation stating what their fleet must meet in terms of fuel economy standards will drive, in large measure, what they build next. That in turn will drive some of the innovation that is required to get there, both in terms of weight and fuel efficiency of engines.

However, there are times when regulations get in the way of innovations. I think part of what Mr. Poilievre was asking was, what can we do? I use the example of the ZENN car, which Transport Canada effectively blocked from being sold in Canada. It's no longer being produced. It was an innovative solution to urban transportation. Canada Post, inside the city, could be using ZENN cars for almost all of its stuff, with zero emissions and zero noise, but regulations prevented it, and it has now ceased to exist.

Could you comment on that?

Dr. Peter Frise: I would hesitate to comment on a specific company's product. I don't think that's a good role for me personally.

However, I would say that, as I stated in my remarks, the balance between vehicle safety and environmental performance is one I think everyone should embrace; it's not something people should retreat from. The real goal is to have the safest possible transportation system that is also as green as possible, if you like, or with the lowest energy intensity. My suspicion is that the difficulty with some of the very small urban vehicles is a balance between safety and energy efficiency. Again, as an engineer, I can't retreat from that.

Mr. Mike Sullivan: In terms of safety, the North American approach to safety is one not of crash avoidance but of crash survival: put me in a tank with pillows rather than prevent me from hitting somebody else or being hit by somebody else.

Dr. Peter Frise: I don't agree with that characterization, Mr. Sullivan, with respect. I think the tank with pillows.... I don't agree with that.

● (0950)

Mr. Mike Sullivan: That's what I feel like when I'm in a big car.

Dr. Peter Frise: Indeed you're quite correct in stating that up until now the basic approach has been one of occupant protection, but I sense a shift in the regulatory environment in the United States towards crash avoidance, with a much larger emphasis on sensors to avoid the crash and to warn drivers of hazards or obstacles in their way and so on.

I can tell you anecdotally that we are working on precisely those issues. We have an absolutely world-beating radar. This is really top-notch. We have radar development ongoing right now, and also ultrasonic blind spot detectors that would enable the future vehicle to avoid collisions with stationary objects or other vehicles. We also are developing lightweighting technologies that will help with vehicle structural integrity. The goal is zero crashes, but realistically I don't think it's achievable. It's like saying there's an unsinkable ship.

I think there will always be a difficult.... It's a very challenging engineering issue. Mr. Robertson and his colleagues at Chrysler Canada and all the car companies spend a huge amount of effort on making their cars as safe as possible, besides providing systems to help drivers avoid collisions in the first place.

The Chair: Thank you for that.

Mr. Toet is next.

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

I want to touch on the ATEC solution you were talking about. I'm intrigued by the idea of different industry sectors coming together and working together for a common purpose. In your presentation you outlined a lot of things that show great benefit to the private industries themselves in going forward with this proposal.

Could you expound upon those benefits and also correlate that subject with the whole notion...? In your ask, you were saying that you want us to say we'd be open to sitting down with this group on a regular basis, because otherwise they're not going to do it. Does it not have merit on its own, such that it would stand on its own without that kind of response?

Mr. David Dennis: It does. As I identified before, this is not our core business, and we've been navigating this with our own funds from a benevolent perspective. Part of our social commitment in terms of sustainability is realizing that this conversation hasn't happened to a meaningful extent. We know that's true because the senior leaders—captains of industry and influencers in this area—are telling us it's not happening.

Specific examples in terms of the value for the private sector could include bringing the availability component, such as Canadian Tire, to the table and working with a government fleet that one could make available with biofuels, for instance. Then Canadian Tire could secure a return on its invested capital through a volume commitment, since the government fleet wouldn't have to invest in its own dispensing of that particular solution. Then there's a cost benefit immediately to the government.

One of the things the people participating in this dialogue say is that there's frustration. They say, “We put an immense amount of resources into our conversations with policy-makers.”

I don't want to put words in the mouth of Larry or Ryan, but I've had many conversations with amazing leadership. They say that we need to get our own house in order. We will benefit among ourselves, but the trifecta has to include policy. It has to. Policy-makers have to be at the table. Then we will fund it ourselves.

We'll do this thing because it makes all the sense in the world. We will ask for nothing other than the policy-maker's ear if it's essentially this idea that ATEC is representative of a majority of a community in a variety of different segments, whether biofuel, natural gas, electrification, or you name it.

I've heard a lot of conversations about the minutiae of different technologies. That's one of the frustrations I hear from these captains of industry, so let's take a step back and acknowledge that all of these solutions are imperfect and have to develop. They're at different stages of commercial viability. They will all serve a purpose through utility and geography and all those wonderful things. In the private marketplace, natural selection is amazing, because part of sustain-ability, which a lot of people don't like to talk about, is economic viability.

The private market is the place to go to understand how that works, so we're pushing for some level of commitment from the members here in order to hear whether or not there's value in that, because we can't continue to navigate this on our own dime. We owe it to the stakeholders who have participated in the conversation to say that if the policy-makers are interested in participating, we'll go ahead. We'll take it across the finish line. We'll hire the appropriate leadership to put in place, and then you'll have your ATEC.

● (0955)

Mr. Mike Greene (President and Chief Executive Officer, Fleet Advantage Inc.): If I may just interject, a great illustration of what we're talking about is what got us into this project in the first place, which was E85 and working with Canadian Tire. The original concept was pretty simple, because there are a lot of E85 vehicles produced by the automakers every year. What we found was an infrastructure problem, because essentially in order to service the E85 vehicle, the fuel had to be blended at the blender or a tank had to be installed at the service station so that there would be a blend of the two fuels. Canadian Tire was quite prepared to do that. However, that brought us to the situation where the cost of E85 was such that it would be prohibitive to the consumer.

After some discussion, what we came down to was E30. That was cost-effective, and it would work. It would reduce greenhouse gas emissions, and all that good stuff. What we then found—and I think this is fair to say, Dave—is that there is no standard relating to E30 in Canada, so it couldn't be done. If this sort of forum existed—one where private and public sector people could talk about various problems and how to get around them and could organize things to the advantage of the community—that sort of problem could have been taken care of relatively quickly, and we would have E30 refillables.

Mr. David Dennis: We created the video accounting because we could barely believe the conversations we were having, to be honest.

Mr. Mike Greene: Exactly. It's incredible.

Mr. David Dennis: We felt as though we had to document it as evidence to support the notion that there is a void here, and a huge appetite to participate.

The Chair: Thank you.

Go ahead, Mr. Nicholls.

Mr. Jamie Nicholls: This is a question for Enterprise.

The website says you have about 8,000 hybrid vehicles, which I believe is the largest in the industry. You mentioned 60,000 vehicles, so that would make just over 10% of your fleet hybrid. That sounds to me like a pretty good achievement.

Can you tell us what sort of internal decision-making got you to that place?

Mr. Ryan Todd: That's a North American number, Mr. Nicholls.

Mr. Jamie Nicholls: Okay.

Mr. Ryan Todd: The 60,000 is the fleet we carry in Canada today. We have quite a number in Canada, but the 9,000 is a North American number.

The decisions are made monthly and annually through constant negotiation and conversation with our manufacturing partners. They're strictly based on availability and financial viability.

There are plenty of consumers out there who would prefer to rent a hybrid vehicle or an electric vehicle, but the rate is substantially higher than it is for the same size of vehicle burning regular fuel. They don't always want to make that decision.

The difference in cost, from our research in our fleet, is in the $8,000 to $10,000 range. If I have a hybrid vehicle like a Prius and another vehicle like a Corolla, the cost is going to be significantly different, but the size will be exactly the same. That creates a challenge for us on the consumer end. Financial viability is important to us. The demand, the desire, is there at the consumer end; it's just a matter of availability. In the long term, as availability increases, that cost will come down. That will be fantastic for the end-user.

● (1000)

Mr. Jamie Nicholls: Other than costs, are there any other obstacles, regulatory issues, or challenges that would affect the greening of the fleet?

Mr. Ryan Todd: We've just begun to build a network of recharging stations in California for electric vehicles. As the Volt and the Leaf become more available, the hope is that we will begin to build this network through our locations in California. That will eventually expand to North America.

Things like that are under way, but we're undertaking this on our own. There's no collaboration. Having a forum where we have these discussions more frequently would provide an opportunity for us to build that network more quickly.

Mr. Jamie Nicholls: Is there anything the federal government can do to assist companies like yours in improving environmental stewardship? Do you have any ideas?

Mr. Ryan Todd: Our company, and others in our industry, are committed to it today. It's a matter of whether there is an opportunity for the manufacturers to make vehicles that produce lower emissions. It goes back to what Mr. Robertson said and when the availability might increase.

We're a retailer. We're a fleet owner. We're not involved in research and development at all, but the commitment is there. We're ready to participate as much as we can. We know that if we don't do our part in providing a passenger vehicle that has lower emissions, then the sustainability of our business will be challenged, so the commitment is already there.

Mr. David Dennis: We talked about there being an absence of regulatory support for standards. I'll give you some low-hanging fruit. If you look at a blender pump for an ethanol blend, there are no standards. Other than E85, there are no standards for other blends that exist in other countries and that are successful. That's the feedback we got from a lot of these people.

Claude Robert is a phenomenal example. He put his hard-earned cash into an infrastructure he really believed in, and he's screaming for some help in developing standards and guidance.

I hope that answers your question, because that's what we're hearing.

The Chair: Mr. Adler is next.

Mr. Mark Adler (York Centre, CPC): Thank you, Mr. Chair.

I would like to begin by asking you all to take off your innovation hat for a second and put on your business hat, because at the end of the day you're all business people.

I'd like you to comment on the fact that, as you know, our government has a plan that is squarely focused on a jobs and growth agenda. We've been recognized around the world by a number of international organizations, including *Forbes* magazine, as the best place to be doing business. We have the number one performing economy in the G-8. I just came back from Washington last week, and a number of the top policy-makers down there are very envious of us. The U.S. used to be a great place to do business, and now Canada seems to be the number one jurisdiction to be investing in and to be creating jobs.

How have the policies we have undertaken, such as lowering the federal corporate tax rate to 15% and creating tax credits for innovation and technology, benefited your businesses and led to your ability to focus more on creating innovations and innovative technologies in the transportation sector?

Do any of you want to jump in first?

Mr. Larry A. Robertson: I could take a shot at that. Jointly with Dr. Frise's university initiatives, the tax incentives on R and D have made it very attractive to keep research in Canada that has been developed in Canada. It has supported our corporation in an international context too. Our Italian alliance looks to our research centre in Canada as a very strong element in the overall research strategy. The research would be done without those incentives, but not necessarily in Canada.

I can't talk to the value, the numbers, but in a general sense that has brought a lot into the Windsor community and the Canadian community, and it has allowed us to reach out to many suppliers and other institutions in Canada. It has given broad support to our industry.

● (1005)

Mr. Mark Adler: So Chrysler and your industry have certainly benefited from the policies of our government?

Mr. Larry A. Robertson: Yes.

Mr. Mark Adler: Thank you.

Dr. Frise, would you comment?

Dr. Peter Frise: As I must point out from the academic perspective, I'm not a business person, but I work with business every day, and it certainly drives much of what I do.

The ability of a company to lever costs and to buy down risk in Canada is absolutely indispensable, especially when you're dealing with companies whose headquarters are abroad, and even to a certain extent Canadian companies that have the ability to locate R and D facilities abroad. The ability to buy down risk and lever their internal funding is how they make business decisions. That's why, from my perspective, Canadian program design is so important. It's critical that companies find the skills and knowledge and infrastructure they need to do R and D here, and that the numbers work as well. You can put a microscope in Auburn Hills, Michigan, or Graz, Austria, just as easily as you could put it in Waterloo, Ontario. It's just a purchase order on somebody's part.

The fact is that we've already paid for all that infrastructure. Canada's research infrastructure is among the best in the world. That's with the high rating of our public sector research and development investments over the years. I think we're second, third, or fourth in the world per capita, but somehow or other our program design has not helped drive industry to invest in Canada as effectively, possibly, as it might have. It's not because industry's stupid or not interested in R and D, or not interested in innovation. It's a program design issue, I think.

Again, I don't want to pound this drum too hard, but I think AUTO21 has really hit upon the way to do that. We're continuously oversubscribed. We leave industry money on the table all the time. I think we could use that as a model for how Canada could go forward in a much more effective way.

The Chair: Thank you.

I'm going to end the round with Mr. Richards.

Mr. Blake Richards (Wild Rose, CPC): Thank you. I appreciate your all being here. You're a very knowledgeable group of people up there today, without question.

I'll start with you, Mr. Robertson, from Chrysler. Mr. Sullivan made some comments a while back about looking at our vehicles. His comment was that no work was being done on crash avoidance. It was directed at Dr. Frise, I believe. I thought it would be nice to give you a chance to respond, because I'm sure you would have some examples from your company in terms of some of things you have done.

It doesn't seem that long ago that anti-lock brakes were a new thing, for example. I think of how far we have come since then. I know there are sensors and various other things that are being done. I'd like to give you an opportunity to share some of the innovations and improvements you've seen in your vehicles over the last 10 to 15 years.

Mr. Larry A. Robertson: There are several areas of innovation, some of which were so innovative that the U.S. safety administration has taken them on as regulations to make sure that it was a level playing field for all—for example, in electronic stability control. You had anti-lock braking before, but with the computerization, you could actually program the vehicles to have crash avoidance capability in some bad driving situations.

That is one extension above the crashworthiness. You want to avoid the crash as well as protect the occupants. It is multi-faceted. At Chrysler in Windsor, we have a development tunnel for headlighting. There's a specific research facility there. You can expand the technologies of high-intensity lighting—patterning, efficiencies, even new technologies. That is being looked at there.

Another one that seems to be coming fast, in my view, and being talked about more in the U.S. than in Canada, is autonomous vehicles, vehicles that drive themselves. This is good for improving congestion on highways, where vehicles can talk together, work together, and mass-move transportation together most efficiently, with lower crash risk. There are a lot of things out there.

The technology's there. The issue is now just in how we are going to package it and what the research capabilities are to find out what we need to do in a North American context. This is an exciting area we're getting into.

Yes, there are lots of areas.

● (1010)

Mr. Blake Richards: There's been a lot of talk about hybrid vehicles and electric vehicles.

I'd like to ask you this, and Mr. Todd as well, from Enterprise's point of view. For you, it's Chrysler. The Ram pickups that are natural gas-powered were mentioned, which you are developing, or I think you may have already put them on the market.

Mr. Larry A. Robertson: Yes, there was a market announcement.

Mr. Blake Richards: I wonder if there are any other examples you have or that are coming, in terms of other fuels, whether it'd be natural gas or propane or otherwise, and why or why not.

I'd ask the same question to Enterprise. In your fleet, are you using other fuels such as natural gas or propane, and why or why not?

Mr. Larry A. Robertson: On a company perspective, our job, as well as the job of other companies, is that we have a fleet performance obligation. It is not per vehicle; each vehicle has to meet standards, yes, but we also have to look at how our fleets perform. There are going to be incremental changes across a lot of vehicles right now, such as eight-speed transmissions or nine-speed transmissions, which will make incremental improvements to the fleet, but that will give the benefits of huge changes, game-changing technologies, for a few vehicles. We have to get in that first.

On the fleet perspective, as Dr. Frise mentioned, we have this CAFE or GHG obligation of almost 54 miles per gallon in the future. That is the manufacturing obligation, but in the whole scheme of things, you also have to look at the fuel itself.

We can run on gasoline or natural gas or whatever it is, but what is the life cycle of that fuel? Is there a better way to process that fuel? You can make diesel from biomaterials. You can make methane from biomaterials. How can we do ethanol with second-generation? It's a very encompassing view on how we bring that technology out there, and there will be those increments.

For hybrids and electric, given the standards, we have to get there in some form. It could be a range-extended electric vehicle still having small gasoline power to it. It could be electric vehicles; we've announced a Fiat 500—

The Chair: I have to stop you there. Your time is up.

We're going to go one more round of five minutes for each party.

Mr. Nicholls is first.

Mr. Jamie Nicholls: My next question is for Mr. Dudley.

Your company has a strong record helping governments, regulatory bodies, and intergovernmental agencies to design and implement climate change policies. We often talk about the health of Canada's current economy, but we see through international organizations such as the World Economic Forum—perhaps not as shining an example of an international organization as *Forbes* magazine—that Canada's competitiveness is falling year over year. If all our international partners all of a sudden start to move toward greener choices for their economy and Canada doesn't make those changes, we could be left in the lurch.

Can you give us a sense of what types of recommendations often give the biggest impact for the least effort in the transportation sector? Is there any apparent low-hanging fruit that usually jumps to mind when dealing with government bodies? Further, what are some of the main challenges for government organizations in implementing climate change policies? Finally, can you talk to us about the North American climate change regulatory jurisdictional review for CN in 2009, and what kind of recommendations you made for it?

● (1015)

Mr. Bruce Dudley: Those are a lot of questions. I'll do my best to start at the front end—

The Chair: You have limited time.

Mr. Bruce Dudley: —and I have limited time.

There are a couple of things. One is to emphasize the importance of the economic potential. The IEA— the International Energy Agency—and the ETP, which is the technology forecast, are among the subjects of the discussion today. They expect a $4.5 trillion cumulative investment by 2050 just in hybrid vehicles. That excludes biofuels and other areas. Under a constrained-carbon scenario, that would almost double, so we're talking about a very large investment potential. It would include domestic investment, but it's also the global market, which means it's a very important agenda.

From a policy perspective, and I'll take from some of the questions that have been posed to us this morning, there is a traditional view relative to transportation that there may be regulations that act as barriers to innovation. I think I've heard that in some of the questions.

However, in the context of innovation, the multiple fuels and multiple vehicle technologies that have to merge, and the challenges of bringing those to market—you see low-carbon fuel standards, for instance, and some jurisdictions trying to force that investment—the challenge for policy-makers is to manage the barriers that regulations create, but it's also enabling regulation that will allow those commercialization opportunities to happen.

For example, we've heard through this process that Fleet Advantage has created that one of the challenges is charging connections or refuelling connections. Canada has been a global leader on standardization in the ICT sector; this is a problem or a challenge within fuels. You can't have each manufacturer having its own connector, because how would you possibly fuel these vehicles, if one assumes the fuel was available?

Government will ultimately play a role in those situations, with the advice of industry, so I think when you couple the issues of transportation and carbon emissions with the economic viability and the availability of fuels and technology platforms, enabling regulation and enabling policy will be key. That would be the advice: to remove barriers where you can, but to listen for where that enabling technology can not only help with domestic investment and implementation but also help to take those technology platforms to other markets globally.

Mr. Jamie Nicholls: My second question is more generally to everyone.

We notice that the concentration on production of SUVs in the 1990s was one of the major focuses of the Big Three in North America. I've read articles saying that most of the challenges involving safety on the road were owing to SUVs simply not handling as well as smaller cars in certain situations. Crashes are more prevalent because these lumbering box-frame vehicles end up getting into more accidents with smaller vehicles.

I'm somewhat remiss, because I'm hearing a lot of innovation related to road safety, which I fully support. I fully support trying to get toward that zero crash thing, but is it not maybe the fact that we were producing these big lumbering vehicles that is now driving innovation toward safety? Is it because of not making the right choices in production and not looking to fuel-sustainable vehicles in the long term?

The Chair: You have 20 seconds.

Some hon. members: Oh, oh!

Mr. Larry A. Robertson: The production choice is also driven by consumer wants. If they're not happy with the product, they will tell and they will not not buy. The issue of vehicle incompatibility on the road has been a challenge. You have transports on the road too, and bicycles. You have a wide spectrum.

The path forward is to make intelligent systems. They work together better out there.

Vehicles on their own all met requirements; what happens on the road is a whole different issue that I'm not going to talk to. The path forward right now is that we have technologies that are and will be safer and more fuel-efficient and that hopefully will work between vehicles and with the infrastructure. That is the path we plan.

● (1020)

The Chair: Thank you.

Go ahead, Monsieur Coderre.

[*Translation*]

Hon. Denis Coderre: Your answer scares me, Mr. Robertson.

[*English*]

I have a Jeep Cherokee and I'm proud of it, but that's another issue.

Some hon. members: Oh, oh!

Hon. Denis Coderre: The situation is education also, but do we believe that at the end of the day, if we're raising the issues of weight, aerodynamics, intelligence such as the electronics, and a better education, these will have an impact on the overall outcome? The kind of vehicle is not necessarily the problem; it's the way you build it and the way you drive it.

Dr. Peter Frise: The biggest determinant of vehicle energy use is the driver's behaviour. The technological factors—the weight and the other systems on the vehicle—are secondary to the driver's behaviour.

The behaviour of drivers is also the greatest determinant of road safety. It's how people conduct themselves on the road—how fast they go, where they go, when they go, what kind of shape they're in when they start driving and continue to drive, and so on.

As you very correctly pointed out, Monsieur Coderre, that is an educational process. I think there's also a role for the law enforcement agencies. Graduated licences are a key factor. If you have young people in your home, they just can't drive anywhere they want, the way we used to when you and I learned to drive: once you had your piece of paper, you were on the go. It's just not that simple any more. I think that's a good thing.

The education and regulation and enforcement environment in Canada is improving towards mitigating the poor effects of poor driving practices. There is certainly a role for technology as well.

Hon. Denis Coderre: My last question is for Dr. Frise and Mr. Dennis.

We have talked about regulations. At the end of the day, if you want to have a partnership, you need better standards, you need a way of working, and you need those regulations. When I was President of the Privy Council, we put forward smart regulation, and now it's getting there. It's not a partisan issue; I think we have to cut the red tape.

You have government money and you want to work with us, so how do you manage concretely, and with whom are you working? Do you have relationships with Transport Canada, with Industry Canada? You have all the issues of intellectual property too.

What kind of recommendations and best practices would you propose regarding those regulations?

Dr. Peter Frise: I can talk to how AUTO21 has functioned in the last ten years.

We have an independent board of directors. AUTO21 is essentially an arm's-length organization. Our board of directors is made up of senior automotive industry executives. The director of engineering and regulatory affairs for Chrysler Canada has been the chair of our board. The president of the Auto Parts Manufacturers' Association has been a chair of our board. At the present time, the chair of our board is the managing director of Toyota Canada. We're agnostic, if you like, in terms of which manufacturers we talk to, as long as they operate in Canada and create value in the Canadian economy.

I think that has been a good model for us. If I can take a lesson away from it, the key thing is to have really knowledgeable people governing the organization. I don't think this is necessarily something that can be done by remote control from here, to be candid.

I think that has been a key thing: our priorities are set by people who live this every day as part of their day job.

Hon. Denis Coderre: Maybe you should also include accountability, because it's about the consumers, the citizens. It's taxpayers' money.

Dr. Peter Frise: Yes.

Hon. Denis Coderre: It's a new relationship. How do you get involved through that accountability process, then?

Mr. David Dennis: First I should frame it up. We're a fact-based organization dealing with fleets all over the world. We actually have a pretty great view into the operational performance of a variety of vehicles—makes, models, geography, utility, you name it. Our principle is always to approach every scenario with a fact-based conversation. That was really the impetus of our conversation as we brought these stakeholders together: if we're going to make recommendations, if we're going to work together, there's a variety of data at our disposal; let's anchor everything we recommend in a fact-based conversation that we can defend.

With the amount of data we have, there's a level of predictability —of certainty—that comes with that kind of knowledge, so I gravitate to our core competency: let's work with the facts.

To your point, the stakeholders are actually invested and are leading the way anyway. Let's get those who are investing in our infrastructure at the table, as well as the ones who are impeding our progress or participating in our progress. That's the epitome of accountability, I believe.

● (1025)

The Chair: Thank you.

Monsieur Poilievre, you may have the last comments.

Mr. Pierre Poilievre: This is for Larry Robertson. The heavy-duty Ram 2500 can run 255 miles on natural gas. Is that on one fill-up?

Mr. Larry A. Robertson: That is one fill-up, using an industry standard type of SAE driving procedure so that it's all comparable.

Mr. Pierre Poilievre: Can that same truck run 360-ish miles on gasoline?

Mr. Larry A. Robertson: No—

Mr. Pierre Poilievre: Okay.

Mr. Larry A. Robertson: I believe that is the combined range with gasoline—

Mr. Pierre Poilievre: That's the combined range; you're right.

Mr. Larry A. Robertson: —unless you have an optional larger gasoline tank, when it may be up to the 500-mile range.

Mr. Pierre Poilievre: Do you mean you can fill up this Ram with both natural gas and gasoline at the same time?

Mr. Larry A. Robertson: Yes. Well....

Mr. Pierre Poilievre: Okay.

However, you don't need both fuels in it at the same time for it to function, do you?

Mr. Larry A. Robertson: Yes, you do.

Mr. Pierre Poilievre: You do?

The reason for my question is that this home fill-up option that we heard of at our last hearing presents consumers with the ability to fill up at home, but that only works if they are returning home the same day. If they're going on a road trip, for example, and there don't happen to be stations along the way, how do they then refill their vehicle?

Mr. Larry A. Robertson: Understand that the initial market for this vehicle would be fleets that have dedicated routing, with central refuelling or whatever. They have a defined range. The concept of only adding a partial range of gasoline is to encourage the use of the natural gas on that vehicle, maximizing the natural gas tank volume to provide that customer the ability to reap the benefits of natural gas use. Gasoline is there for range anxiety; you give it to give some range.

Mr. Pierre Poilievre: I get it.

I'm interested in this because I believe that it will be an attractive option for consumers, given the price disparity between natural gas and gasoline. There is the possibility now to fill up a car at night at home in your garage or your driveway and then drive at a significant discount to the cost of gasoline, except that every family wants to take a road trip at some point in time and there aren't enough natural gas stations to refuel with. Obviously they're not returning home to fill up, so do you see the technology moving in a way that will allow them to substitute gasoline on occasions when it's not possible to power up with natural gas?

Mr. Larry A. Robertson: Yes, with this particular technology you can have that gasoline. In Canada we've decided to allow for a larger gasoline tank, because the infrastructure for natural gas has diminished over the last few years.

As we build the knowledge, rebuild the infrastructure, and look at different vehicles, those options will be looked at to allow consumers support so as not to run out of fuel on the road, if they're anxious about that. You can run on gasoline and diesel—I'm sorry, I mean gasoline and—

Mr. Pierre Poilievre: You can run out of gas, but you are saying you must have natural gas at the same time.

Mr. Larry A. Robertson: It's actually the other way around. You must have gasoline.

Mr. Pierre Poilievre: I see. It's possible, then, for a consumer to run their CNG vehicle on gasoline alone.

Mr. Larry A. Robertson: The vehicle is designed right now to start on gasoline, and then it operates on CNG exclusively.

● (1030)

Mr. Pierre Poilievre: I'm sorry, but we're very tight on time. If there's no CNG in the vehicle—

Mr. Larry A. Robertson: —it will run on gasoline.

Mr. Pierre Poilievre: It will run on gasoline.

Mr. Larry A. Robertson: Yes.

Mr. Pierre Poilievre: Great. Well, that's encouraging, then.

Thank you.

The Chair: With that, I will thank our guests today. We certainly appreciate your time and your effort to be here today. I'm sure you will see some of these show up in our report at a later date.

Thank you very much.

Mr. David Dennis: Wonderful. Thank you....

Dr. Peter Frise: Thank you.

The Chair: For the information of the committee, over the next couple of days I will be sending you an itinerary for the next six to eight meetings and a list of the guests that we've invited. Some haven't confirmed yet, but we have them on the list. I ask you to look at that. If there are any other suggestions, let me know.

Have a good weekend.

The meeting is adjourned.

Published under the authority of the Speaker of the House of Commons

SPEAKER'S PERMISSION

Additional copies may be obtained from: Publishing and Depository Services
Public Works and Government Services Canada
Ottawa, Ontario K1A 0S5
Telephone: 613-941-5995 or 1-800-635-7943
Fax: 613-954-5779 or 1-800-565-7757
publications@tpsgc-pwgsc.gc.ca
http://publications.gc.ca

Also available on the Parliament of Canada Web Site at the following address: http://www.parl.gc.ca

Publié en conformité de l'autorité du Président de la Chambre des communes

PERMISSION DU PRÉSIDENT

On peut obtenir des copies supplémentaires en écrivant à : Les Éditions et Services de dépôt
Travaux publics et Services gouvernementaux Canada
Ottawa (Ontario) K1A 0S5
Téléphone : 613-941-5995 ou 1-800-635-7943
Télécopieur : 613-954-5779 ou 1-800-565-7757
publications@tpsgc-pwgsc.gc.ca
http://publications.gc.ca

Aussi disponible sur le site Web du Parlement du Canada à l'adresse suivante : http://www.parl.gc.ca