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Chair

Mr. James Rajotte

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● (1105)

[*English*]

The Chair (Mr. James Rajotte (Edmonton—Leduc, CPC)): I call the 44th meeting of the Standing Committee on Industry, Science and Technology to order, pursuant to Standing Order 108(2). We are continuing our study of Canadian science and technology.

We have with us today, first of all, by video conference, Mr. Darin Barney, who is the Canada research chair in technology and citizenship at McGill University.

Secondly, we have, from the Canadian Association of Science Centres, Tracy Ross, executive director; Mr. Scott Langen, who is the president; and Tammy Adkin, the vice-president.

We have, from the Partnership Group for Science and Engineering, representative Mr. Ian Rutherford, executive director of the Canadian Meteorological and Oceanographic Society; and the past chair, Mr. Denis St-Onge.

From Science for Peace, we have two individuals: the treasurer, Mr. Derek Paul; and United Nations representative, Mr. Walter Dorn.

Welcome.

We will start in the order I outlined. Each organization has up to five minutes for an opening presentation, and then we'll go into questions from members.

Mr. Barney, we'll start with you for a five-minute presentation.

Mr. Darin Barney (As an Individual): Thank you very much, and thank you for inviting me to speak with you today.

As those of you who've seen my brief will know, the recommendations I make in it are very few and modest. They centre around the recommendation that the committee consider making it a priority to establish institutional mechanisms for enhanced citizen engagement on issues of science and technology policy and development in Canada.

The argument is premised on the idea that the significance of science and technology and their development extend beyond the very important role they play in ensuring the competitiveness and growth of the Canadian economy, but that they extend into broader corners of social and political life, even beyond those very important implications.

Science and technology are political in many senses. The priorities around them emerge from political processes. People make decisions in particular institutional contexts, with particular interests in mind. And of course science and technological development also have very important political consequences: resources are distributed; practices are established; relationships are established; and some interests are served better than others through practices and processes of scientific investigation and development.

As such, I think there's a real need for scientific and technological development to be subjected to democratic deliberation by citizens, both to legitimize in a democratic sense the policy directions that governments take, the regulatory decisions that agencies take, and the funding decisions that funding bodies take, and also to optimize those decisions, to bring to the table a broader array of perspectives, views, and experiences that have been typically the case in the development of science and technology policy in Canada.

Currently, institutional frameworks for science and technology policy and decision-making in governments don't place a high priority on citizen engagement. That doesn't mean there is no citizen engagement, but I think, by and large, we've done a much better job of making sure we take into account the views of experts and stakeholders, which are very important and absolutely must have a place at the table when it comes to the development of science and technology policy. But citizens have had less attention paid to them—citizens who don't fall into those categories of experts and stakeholders. When it comes to citizen engagement, with some exceptions, efforts have been more sporadic, more ad hoc, and less well developed than our attention to stakeholder and expert engagement when it comes to science and technology advice to government.

So my brief outlines the case for greater attention to citizen engagement and in fact makes the recommendation that the committee consider the possibility of recommending the establishment of an institution whose primary focus is to engage Canadian citizens on issues of science and technology development, not as an extra, not as an add-on to its primary activity, but focused and dedicated specifically to fulfilling that role.

That's the substance of my brief, and I'd be happy to speak to it in regard to any questions you might have.

● (1110)

The Chair: Thank you very much, Mr. Barney, for your presentation.

We'll go now to Mr. Langen or Ms. Ross. Who will be presenting?

Mr. Scott Langen (President, Canadian Association of Science Centres): I will start.

The Chair: Please begin.

Mr. Scott Langen: Thank you, Mr. Chair, honourable members, *mesdames et monsieurs*. On behalf of the Canadian Association of Science Centres, thank you for the opportunity this morning to speak on behalf of science centres and science engagement organizations.

Our interest in the study before you falls under the themes of science advice to government, big science, and Canada's position in global science and technology. You'll hear from us on how science centres and science engagement organizations, we believe, are fundamental components or a foundation to the science and knowledge infrastructure in Canada. Our interest is in promoting today a national investment framework that will effectively mobilize and engage this resource, or citizen engagement, if you will. While other countries move ahead with major strategies, Canada has yet to move forward, although I think today is a big part of that, and we thank you for that. Finally, you'll hear about our STEP Up Canada proposal, a science and technology engagement program for all Canadians.

I'll be brief, but I will speak about what a science centre is. A science centre or a science promotion organization is a place where individuals are challenged and inspired to think differently—to think differently about science and technology, to be innovative, to learn how to be problem solvers and critical thinkers. We take an approach, not static, but of very dynamic engagement, participatory, hands-on, and experiential. We believe the ability to think differently in science and technology, of course, is the foundation for our overall innovation capacity within Canada.

Very briefly, the Canadian Association of Science Centres—or, as I will call it from here on in, CASC—is a 44-member organization. We are across Canada. We represent everything from outreach organizations to science centres to science literacy groups. For the most part, on an annual basis, our impact is about eight million visits a year, which I've been told is a little bit more than the CFL attendance, so there is a huge community dividend and a significant economic impact.

As the federal government contemplates the next phase of the science and technology strategy, we bring to your attention our proposal on STEP Up Canada, and we've brought copies for all members here today that will be handed out in both English and French. The STEP Up Canada proposal complements existing Government of Canada initiatives to enhance the formal education, the R and D, the commercialization, and specifically as it relates to what government calls “the people advantage”.

Within our STEP Up Canada proposal, there is a suggestion of an investment of $200 million over five years. That is less than 0.5% of the current federal science and technology budget. We have three objectives we want to achieve through that. One is that Canada's communities have the resources to celebrate our successes in science, to build the awareness, the interest, and the support for the science that takes place. Two, of course, is to inspire Canadians to think differently and for young minds to think more innovatively. Three is to empower Canadians with the knowledge to meet the complex challenges that we don't know are around the corner for the next 10 to 15 years. Ultimately, those three objectives, we believe, help to build what we call a science culture.

The STEP Up Canada proposal is also our answer, we believe, to some of the challenges and deficits Canada is facing. Canada continues to fall behind in productivity and innovation rankings. Recent findings show that university enrolments in the fields of computer science and mathematics have fallen sharply and that science and math performance of young Canadians in most provinces has also begun to decline.

How do we meet this serious challenge to Canada's future? What we do know is that there is a direct link supporting science centres and generating innovation, science and technology, and workforce. We do know that individuals who choose eventual careers within math, science, and technology have had positive hands-on experiences within science centres, natural museums, and other science engagement organizations. We know that over time a supportive science culture also supports the advancements within big science.

I will wrap up here because I know time is of the essence, but I'll speak briefly to some international examples.

There are at least seven OECD countries that have nationwide programs designed to enhance knowledge and science culture. Portugal, whose proportion of science and technology graduates exceeds the OECD average, supports a national science centre network and a national science and technology week. Japan is, again, very similar.

● (1115)

The structures proposed in our STEP Up Canada program will help to create that national investment strategy.

In closing, I would like to reiterate that science centres are, we believe, the foundation of Canada's innovation system. It is the starting point for developing and engaging an S and T capacity. It's part of the answer to addressing the knowledge and innovation deficits. We know there are leading international examples, and STEP Up Canada will help that national investment framework. It leverages additional dollars out of provinces, the private sector, and municipalities, and it will build that science culture and knowledge infrastructure.

Thank you very much.

The Chair: Thank you very much, Mr. Langen.

Mr. Rutherford, will you be presenting? I should mention that you do the bacon and eggheads breakfast here on Parliament Hill.

Mr. Ian Rutherford (Representative, Executive Director of the Canadian Meteorological and Oceanographic Society, Partnership Group for Science and Engineering): Yes, I was going to mention that.

I'd like to thank the committee for the chance to appear before you. We did submit a brief earlier, and I hope you have all had a chance to look at it.

The Partnership Group for Science and Engineering is an umbrella group for an association of more than 25 professional and scientific organizations. I guess we fall into the category of experts and stakeholders mentioned by our first witness. We certainly would like the government to listen to experts and stakeholders as well as the general public. Of course, we are very interested in educating and interacting with the general public ourselves.

I guess we're best known for the bacon and eggheads breakfast, but we do a number of other things. We work in partnership with government to try to advance research and innovation for the benefit of all sectors of Canadian society.

Our brief basically addressed two of the themes, the same two themes that were addressed by the science centres, namely, the matter of science advice to government and big science projects vis-à-vis Canada's position in global science and technology.

We have four recommendations in our brief: one, strengthen the mechanisms for independent scientific advice to government; two, reinvest in the federal research infrastructure in science for the public good; three, encourage the archiving of scientific data as a legacy for comparative purposes and analysis as a base for future development; and four, adopt a strategic approach to investment in big science initiatives and international science partnerships.

I'll briefly elaborate on those four recommendations.

The government has recently moved to streamline its external advisory system by replacing a number of previous advisory bodies by the new Science, Technology and Innovation Council, or STIC. PGSE thinks this is an excellent move that should consolidate the science advice to government.

The Chair: Mr. Rutherford, could we get you to slow down for the translation?

● (1120)

Mr. Ian Rutherford: Oh, I'm sorry.

The Chair: Maybe you could just rewind a sentence or two.

Mr. Ian Rutherford: I won't repeat the four recommendations. They are in the brief. I'll just move on to elaborate briefly on the first of those.

PGSE is impressed that the government has recently moved to streamline its external advisory system by replacing a number of bodies with the new Science, Technology and Innovation Council. This will consolidate science advice to government through a blue ribbon panel of external and internal scientists and managers who'll be able to tap a wide range of sources of scientific advice from outside government.

The Council of Canadian Academies, which was established in 2006 with a mandate to carry out science assessments, is another essential mechanism to improve science advice to government. We support both of those. We think the government should continue to support those bodies; ensure that they have viable secretariats and that they are strengthened.

On the matter of reinvestment in federal research infrastructure, we feel that the government needs to have a strong internal science capacity to provide a science base for policy development and to support a number of things government does—standard-setting, regulation formulation, and the provision of science-based government services. It's well and good to have advice from outside, but you also need an internal mechanism to evaluate that advice and to produce independent bits of it.

It's well known that the government's internal science capacity has diminished in recent years because of cuts over, I would say, the last decade. In some areas of national priority, such as climate change, energy supply, water supply—the whole area of environmental sustainability—and public health, our science departments are critically short of resources. The government should move to identify research gaps that cannot or will not be filled through university research and should make sure they're filled through in-house efforts.

In doing so, the government will maintain the capacity to judge external research where it exists. You can't be a good judge of what's going on outside if you're not a reasonable expert on the subject matter yourself. We think that such input is vital to properly inform decisions and policies. The 2008 budget did a number of good things for science and technology, but it was silent on the question of strengthening the government's in-house science capacity.

The third recommendation is related to that, and it has to do with the federal infrastructure for gathering and managing data. Much data is critical for monitoring the state of affairs in the priority areas I mentioned, and it's suffering from rust-out and obsolescence. Not only the infrastructure, but the people who do that kind of thing are, by and large, missing. So it's essential, we think, that Canada have ongoing records of environmental conditions, for example, so you can monitor the speed and extent of change and stimulate the development of new technologies. The retention of such records also provides a lasting legacy for comparative purposes and for ongoing analysis.

These are things that cannot easily be done by universities, and they can't be done by the private sector, although the private sector can be engaged as contractors. Government has a fundamental responsibility to monitor these fundamental matters of the Canadian physical environment.

There are growing weaknesses in the monitoring of climate and water resources, in particular, that require urgent attention. You may have heard about these from other witnesses at other meetings. There is an assessment of water issues by the Council of Canadian Academies currently under way, and we think that should get close attention.

Finally, support for big science in Canada lacks a coordinated approach. There was, at one time, a mandate in the Office of the National Science Advisor to develop a strategy for Canadian government support of big science. That office has now been closed, and that work was never done. We think the matter needs to be taken up again, either by STIC or by the Council of Canadian Academies, but it needs to be done somewhere.

And that's the end.

The Chair: Thank you very much, Mr. Rutherford.

We'll now go to Science for Peace. Mr. Dorn, will you be presenting on behalf of the organization? Will it be both of you?

[*Translation*]

Prof. Walter Dorn (United Nations Representative, Science for Peace): Mr. Chair, thank you for giving me the opportunity to appear before this committee.

[*English*]

Albert Einstein advised his physics students that concern for humanity must form the chief interest of all technical endeavours. This would equally apply to all of us here. The call for science and technology to be practised with conscience is the basis of our organization. Science for Peace and its sister organization, the Canadian Pugwash Group, are devoted to both reducing the negative impact of science and technology and increasing the positive peaceful role.

Last Friday, the draft cluster bomb treaty was adopted by 111 nations in Dublin. It provides a much-needed step in limiting human barbarity caused by those sophisticated tools of destruction. We hope Canada will pass laws to implement the strictest export regime for parts that could be used in cluster munitions and find ways to make the treaty robust and effective. More generally, we urge Canada to apply science and technology to arms control, peacekeeping, and humanitarian causes. For instance, we suggest that the government's arms control verification program be re-established and that treaty verification research be incorporated into the work of Defence Research and Development Canada, or DRDC.

Our country's most advanced global monitoring asset Radarsat-2 could help these causes. We thank the committee for any influence it might have had on the decision to stop the sale of Radarsat-2 to U.S. arms manufacturer Alliant Techsystems, whose munitions, incidentally, include cluster bombs.

Canada must now give support to MDA, MacDonald, Dettwiler and Associates Ltd., develop the Radarsat constellation of satellites, and space recognisance generally. We advise that the Government of Canada help the UN by providing it with the results of Canadian science and technology.

Your fellow parliamentarian, Senator Roméo Dallaire, complained about being deaf and blind in the field when he was force commander in Rwanda. New technologies can help immensely, serving as the eyes and ears of the United Nations as it tries to solve complex conflicts in some of the world's greatest hot spots.

The figure you see in this handout illustrates the range of Canadian technologies that should be explored in peacekeeping. At the top we see aerospace systems, helicopters, UAVs, planes, and balloons that can give a bird's-eye view, while ground surveillance, like video and radar, can be used to protect UN camps. Night vision devices can be used to detect perpetrators who use the cover of darkness to commit atrocities and use the night to hide their weapons.

As the Canadian Forces acquires a new set of UAVs, or uninhabited aerial vehicles, at least a few of these should be deployed to assist the UN in its peacekeeping operations. As the UN waits for help in places like Darfur, Congo, and Haiti, with so little technical capability—and lives are being lost—can Canada afford not to help?

As Einstein reminded us, concern for humanity should be our primary motivating force.

Please include in your report the ways in which science and technology can be used properly as a great boon and not a curse for humanity.

My colleague, Derek Paul, will now address other threats and aspects of science and technology.

● (1125)

Mr. Derek Paul (Treasurer, Science for Peace) Thank you.

I'll begin in French.

[*Translation*]

The limits to the planet's resources and a predictable limit to world population will consequently require a limit on industrial production and a halt to the growth of the world economy. At the moment, no one knows how to create an economy that is sustainable and does not grow, but we absolutely have to buckle down to that task and dedicate ourselves to a new way of thinking. As we describe in our brief, we have to adopt a new paradigm.

[*English*]

I will continue in English.

This call for new thinking and a new paradigm, which is in the written brief, has led to the following, much abbreviated recommendations:

Enhance mechanisms whereby government and members of Parliament can dialogue with independent scientists. You've heard that from Scott Langen and Ian Rutherford.

Act on reports of the National Round Table on the Environment and the Economy. Do not ignore them.

Set up a council to study the paths to a sustainable civilization. That's very important.

Become informed or educated in the concept of an ecological footprint. I welcome questions on that. There's a useful reference in our written brief.

Recognize climate change as a world emergency.

Limit water usage in any district to the amount that is replaced by precipitation.

Initiate plans to halt the ecological ruin of the province of Alberta or of any other threatened area.

Prevent inappropriate ethanol production. A very useful reference in our brief will explain what is inappropriate.

Set in motion a comprehensive study for the development of a new electrified railway system for Canada with extension to all North America to be encouraged.

Oversee nanotechnology to prevent pollution and the effects of ill health and set up the necessary lab facilities to achieve this.

Label genetically modified foods.

Make strong efforts to prevent poor technological choices. This is very much a thing for Industry Canada.

Reduce and eliminate subsidies to sunset industries, and start to reverse the trend toward commercializing universities.

We welcome questions on all these recommendations.

Thank you. *Merci, monsieur.*

● (1130)

The Chair: Thank you very much, Mr. Paul.

We'll go to questions from members. For the first round, for six minutes, Mr. Simard, please.

Hon. Raymond Simard (Saint Boniface, Lib.): Thank you very much, Mr. Chair, and I would like to thank all the witnesses for being here this morning.

Mr. Barney, if I could begin with you, please, I thought your comments on citizen engagement were very interesting. As you probably know, our committee has been travelling. We were out west last week and met with some of the brightest minds in the country, if not in the world, on some of these research projects. Obviously we're bringing expert stakeholders to our committee, and I'm just wondering what contribution a regular citizen can make to this very specialized field. Does it help to establish priorities, and are other countries doing something similar? If so, is it successful?

Mr. Darin Barney: Thank you very much for that question. Yes, I think there has been increased attention across the Government of Canada, not only in this policy area, but to the importance of citizen engagement in general. I think this reflects a sense that citizens do have something to say even on complex issues, that they live in a world where these technologies and scientific developments are going to be rolled out. They have intimate experience with what science and technology means in their everyday lives. They bring a perspective to the table that I think is distinct from the perspective that scientific experts bring to the table or that stakeholders, especially industrial stakeholders, bring to the table.

All of that, I think, has to form a kind of complex quilt of advice to government, because I think if everyday citizens' voices are excluded from or not sought in ways that are constructive and under conditions that produce the best of what citizens are capable of in terms of advice on these issues, then governments are going to be faced with difficult choices to make on questions of funding, on questions of regulation, on questions of priorities in terms of addressing pressing scientific and technological issues, and they're going to have—

Hon. Raymond Simard: Who is doing this? Are other countries doing this?

Mr. Darin Barney: Other countries, yes.

I think the voice of citizens is one that has to be at the table when these priorities are being formed, along with these other very important sources of information.

As I outlined in my brief, multiple bodies exist throughout Europe to specifically engage the public on questions of science and technological development. That's their first job. As a policy-maker and legislator you know how complicated it is to engage the public on a systematic basis in a way that produces meaningful, high-quality consultation. It's very difficult, and it's especially difficult on complex issues like science and technology.

So I think what's necessary is a body whose first job is to produce the conditions and to pay attention to how high-quality citizen engagement on issues of science and technology can be generated so that it can be added to the advice you get from the Council of Canadian Academies, from STIC, from—

Hon. Raymond Simard: Thank you very much. I only have six minutes; I'm sorry.

Mr. Rutherford, I wonder whether I'm asking the right person here, but one of the questions that developed over the last week was how important these big science projects are to our country and how we're doing in the world. We were at the synchrotron, for instance. I believe we have one, and the Americans may have seven or eight, and sometimes they're not financially viable; sometimes governments have to subsidize them. How important is it for a country to have projects like the synchrotron or TRIUMF?

● (1135)

Mr. Ian Rutherford: We think they're very important, and we think the government has to subsidize them. They're not money-making things, although TRIUMF, for example, has commercial spinoffs and generates some money, and so does Atomic Energy of Canada through the sale of radio isotopes, and so on.

These things are very important for the health of the scientific community in the country. If we're going to pull our weight in these fields, we have to have facilities in our own country and we have to have a mechanism to participate in international developments.

I watch what's going on, for example, with the synchrotron in Geneva. There's only a very small Canadian contribution to it; I think we're making some magnets for it. But access by scientists to that is not as good as it should be. There are any number of examples where there are big scientific international projects going on, and Canada has trouble participating in those.

Hon. Raymond Simard: We've seen some very impressive partnerships over the last couple of weeks as well between departments and universities, whether it's Agriculture Canada and.... Can you tell me, do you consider that in-house research, or are you talking specifically about government doing its own research on certain things because it has a public policy responsibility to do so?

Mr. Ian Rutherford: I think you need both. I think there are certain things that have to be done in-house, but most government research—all of it, in fact, that I'm familiar with—is done in partnership with universities and with institutes outside. Work can be done in collaboration in joint projects or it can be contracted out, but there is a core capability that has to be maintained in government in order to even do that. We're getting perilously close to not having that capacity.

Dr. Denis St-Onge (Past Chair, Partnership Group for Science and Engineering): Could I add something?

Hon. Raymond Simard: Sure.

Dr. Denis St-Onge: As an example of this, you're aware that recently Minister Lunn has put a lot of emphasis on geological knowledge in the Arctic because of sovereignty. The problem is that for the last 10 years at least, the Geological Survey of Canada has not been working in the Arctic, because there were no subsidies for that. All of a sudden, we need all this information for policy reasons, and it has to be started up again, which is going to be difficult.

Here is another example of participation. Because Canada is a small country, we cannot do everything. Obviously we need to participate in international projects. The Orphan Basin drilling program was another example, where we did practically nothing, because we did not pay our full share.

Those are examples of the sort of thing.... We don't pretend we should do everything, but we should have a mechanism to participate in these big international projects.

The Chair: Thank you, Mr. Simard.

We'll go to Madame Brunelle.

[*Translation*]

Ms. Paule Brunelle (Trois-Rivières, BQ): Thank you, ladies and gentlemen.

Mr. Rutherford, I found your comments interesting. Since this committee began its work, we have seen that a lot of research is done in Canada, but that budgets are never enough. It also seems all very fragmented. I find that it sometimes lacks direction and perspective. I promised myself that I would take the summer to re-read all the documents we have on the subject and see if there is a common thread.

We know that we need perspective because we are dealing in the long term. Research precedes the application of the research. You tell us that we need a coordinated approach. But the organization that had the responsibility to provide one has been closed. I would like to know the name of that organization and why it was closed. I would also like you to tell us how all this research can be coordinated.

Mr. Ian Rutherford: There are a number of aspects to coordinating research. There can be too much coordination just as there can be too little. The assistant deputy ministers with responsibility for science could discuss these matters and coordinate their efforts. But when it comes to Canada's participation in research on the world stage, there is no coordinating mechanism. We need such a mechanism and we must establish one.

● (1140)

Ms. Paule Brunelle: If I understand you correctly, an organization was shut down, but it was not doing any coordination.

Mr. Ian Rutherford: I was talking about the office of the national science advisor, who was supposed to come up with a strategy for *Editorial Note: inaudible* big science. But he did not do so and the office is now closed. Now the job must be given to someone else.

Ms. Paule Brunelle: So we need an office to develop a strategy.

Dr Denis St-Onge: The national science advisor to the prime minister, a position that was established as a result of a recommendation from the Partnership Group for Science and Engineering (PAGSE), never got the resources it needed to do any effective coordination work and its office was closed.

Now, as we have highlighted, the Science, Technology and Innovation Council (CSTI) has been created, chaired by Dr. Alper, a former president of PAGSE. We hope that this organization is going to do the job. The problem at federal level is that the various departments are not always coordinated. Some body has to coordinate them through its advice to government. We hope that the CSTI is going to do it, but, since the council has just been created, we do not yet know if it will.

Ms. Paule Brunelle: Thank you.

Mr. Langen, on another matter, you say that Canada is falling behind other countries. Can you tell us in which area? You were mentioning the number of science centres, the topics they were dealing with and their budgets.

Yet we have often heard that our renewal is not going well, that we are going to have a shortage of employees in various technical areas, and that we are going to have a shortage of scientists. Do science centres have an effect on renewal, and, if so, how is the effect manifested?

Mr. Scott Langen: Thank you for your question.

I am going to speak English, just to make sure that I am understood.

[*English*]

It's better that way.

With respect to your first question, I guess what I call “the knowledge gap” or “the infrastructure gap” would be the number of individuals entering and exiting math, science and technology, graduate studies, engineering. There is a decline in those areas. We see that as a concern. Given our approach in terms of citizen engagement and science culture, we believe that an investment in science promotion and what science centres and science literacy organizations do would spark more of a continued interest in students, to first achieve that educational attainment and then the labour force attachment.

The other challenge, specifically within Saskatchewan, is a labour force shortage. There are challenges, not just in the big sciences, but in carpentry, nurses, and lab technicians. In terms of labour force needs, we believe that a more engaged citizenship who are putting themselves through these educational opportunities will begin to close that gap.

To speak of that in a third way, when we look at the U.S., Portugal, Japan, and Australia, to name a few, over the last five-plus years, they've accomplished a national investment strategy into science centres and science literacy organizations for programming, exhibitions, infrastructure renewal, to ensure that it is less ad hoc and that there is broadband science experience and a citizen engagement across the country. Currently, if you go province to province, there is some variance and differential in terms of the level of science programming and opportunities that exist.

I think I've answered both of your questions in a roundabout way.

Tammy or Tracy, did you want to add to that?

The Chair: Very briefly. We are out of time.

[*Translation*]

Ms. Paule Brunelle: That is fine, Mr. Chair. Thank you.

[*English*]

The Chair: Ms. Ross.

Ms. Tracy Ross (Executive Director, Canadian Association of Science Centres): I would just add one point. We have documentation that demonstrates that for those individuals in scientific employment today—and we could speak to some of our colleagues around the table, I'm sure—visiting a science centre, a science museum, a natural history museum, or an aquarium are the top-rated—and we're talking 90% here—informal science activities that inspired them to pursue science and technology in a career. We have that evidence here today.

There has also been more recent evidence that for those students in science and technology in high school, visiting a science centre or a museum increases their interest in science and technology.

● (1145)

The Chair: *Merci, madame Brunelle.*

We'll go to Mr. Stanton, please.

Mr. Bruce Stanton (Simcoe North, CPC): Thank you, Mr. Chair.

Good morning to our witnesses. I appreciate the great panel this morning.

I want to direct a question first to Dr. Barney.

You talked about citizenship engagement in science and technology, and you mentioned an institution that could be used as a vehicle to do that. Could you explore a little further for us what that looks like in terms of how we reach out to that citizen level?

Let's face it, even in the course of our study, committee members have realized just how complex this topic can be. How do we bridge that with citizens?

Mr. Darin Barney: I think it's that very complexity that you highlight that recommends an institution that's specifically dedicated to developing best practices in citizen engagement and consultation around science and technology issues. That is kind of the missing third pillar in the emerging structure for scientific and technological advice in Canada in the transformation that was discussed earlier.

The Council of Canadian Academies and STIC have a role to play. It's interesting that it's a double complexity. Citizen engagement that's productive is a very complex thing to achieve on any topic. As you as parliamentarians know, it's very difficult to engage citizens in productive ways on any of the issues that government faces. It's doubly complex when it comes to science and technology.

I think what we would need is an institution, and again, in my brief I talk about the European Parliamentary Technology Assessment network, where they've been developing, in many European jurisdictions, institutions that are specifically about combining best practices and citizen engagement in outreach with developing the kinds of materials, the kinds of outreach on complicated scientific and technological issues, so that you can marry those two things and produce advice to government that is of a high quality. I think that's hard to achieve when engagement is a kind of afterthought, a secondary theme, and not the main focus.

Mr. Bruce Stanton: I want to move on here in a second, but presumably this institution would be within the realm of government. It would be something the federal government would create and have within its—

Mr. Darin Barney: I think it would be.

The model I have in mind—and this is just derived from my own experience as an advisory council member of the Law Commission of Canada—is something like that kind of commission, that has that kind of relationship to government and those kinds of resources.

Mr. Bruce Stanton: I'd like to move on, then, to Mr. Langen, or any of your colleagues.

I have one quick question. What types of transfers to the science centre community are you currently receiving from the Government of Canada?

Mr. Scott Langen: For the most part, in terms of national transfers, there is the NSERC PromoScience grant and....

Ms. Tracy Ross: There is $2.4 million in the PromoScience grant and the Canada Space Agency.

Mr. Bruce Stanton: How much is that?

Ms. Tracy Ross: That is under $200,000 annually.

Mr. Scott Langen: That's federally.

Mr. Bruce Stanton: Okay. That's what I wanted to know.

You're certainly on the mark here in terms of the degree to which these kinds of operations and exhibits and facilities help engender young people to look at science.

I wonder if you could give us some statistics on what that looks like and what kinds of results. Do you have anything that shows that the exposure to these kinds of exhibits and organizations in fact drives higher numbers of graduates, for example, or greater enrolment in science and math? Is there anything like that that demonstrates those results?

Mr. Scott Langen: I think I did mention the one from CA Canada, where they had surveyed just under 500 university students, and 94% of them said that trips to science centres, museums, natural history museums, and general science experiences increased their interest in science and technology.

That's one of the more recent studies. I know Tracy can speak to a few.

The ASTC, which is the Association of Science-Technology Centers, based out of the United States, has a binder about this thick in terms of studies that have been done over the last 15 to 20 years.

● (1150)

Ms. Tracy Ross: Absolutely, Scott, that's correct, and I'll just add a couple more.

There was the one I just pointed to, conducted by the National Science Foundation, that indicated that those individuals in science careers had indicated that visits to science centres were one of the top experiences that motivated them to go into a science career.

So it's a bit of a retro thing, and as we've said, it's very complicated in trying to decide why people go into science. But that's one of the two pieces of evidence we have.

The other one I'll point to is that we have seen, in terms of performance testing and standards testing, more hands-on activity and more hands-on experiences increase people's performance in terms of standardized testing, and we have evidence to that effect as well. Of course, science centres epitomize the hands-on learning technique.

Mr. Bruce Stanton: Am I out of time, Mr. Chair?

The Chair: You have about 30 seconds left. Mr. Langen did want to make a point again.

Mr. Bruce Stanton: That's okay.

Mr. Langen, go ahead.

Mr. Scott Langen: There's also something more going on. After a workshop or a visit, do they understand more in terms of natural sciences and physics? What happens is that their mind is inspired. When we say someone is innovative, it means they are a problem solver; they're a critical thinker; they're a risk taker; and they're collaborative and creative. That is the type of experience we're trying to build within these youth, and it's that connection to future careers and opportunities that we think will help with the innovation infrastructure.

The Chair: Thank you, Mr. Stanton.

We'll go to Ms. Nash, please.

Ms. Peggy Nash (Parkdale—High Park, NDP): Thank you, and welcome to the witnesses. I regret that we get only six minutes to ask you questions. It goes very fast.

To the folks from the Canadian Association of Science Centres, I was struck when we were visiting the TRIUMF facility in Vancouver. There were these amazing young physicists who were so inspired by the work they're doing. It was really exciting to see them, and it made me regret that I was a literature student and not a science major, because they were so excited about the work they're doing. It seems to me that if we are going to engage Canadians in science, we need to engage them as youngsters.

We have a science centre in my city, Toronto. I haven't been there recently, but I remember for a long period of time that there weren't new exhibitions and new things there, so we kind of stopped going. And I was very sad to see our planetarium shut down, because I loved the planetarium.

Do you believe...? I guess I'm asking you a leading question, because I think it's obvious that if we engage kids when they are young, they will grow up to be adults who are engaged and interested in science. Even if science is not their career, they will care about science and what their country's role is in scientific developments.

Ms. Tammy Adkin (Vice-President, Canadian Association of Science Centres): I'm happy to answer that. I spend my days working with the very youngest of science centre visitors at our centre. We welcome visitors from infancy to 12 years old, and their families. It is never too early to start. In fact, by waiting until children get to the later grades of elementary school, it's almost too late to ignite that spark that encourages them and gives them the confidence to pursue interests, studies, and then ultimately perhaps careers in science.

So as far as hands-on experiences go, we know that the first five years of a child's life are vitally important in setting the framework for how they will respond to learning in future years. Giving them opportunities that show them that science is all around them, that it goes beyond a textbook in a school, really sets the foundation for innovation. Certainly the Ontario Science Centre and science centres across Canada have recognized the importance and are working to engage early learning. Also, by engaging early learners, you engage their families as well.

The Ontario Science Centre is hosting the 5th Science Centre World Congress in two weeks in Toronto. People from around the world will be coming to learn what they have done in terms of moving forward on that agenda.

Ms. Peggy Nash: Thank you.

Dr. Barney, I was struck by the mention of the Danish technology board in your brief. Something else that strikes me is that in Toronto we have a wind turbine, and if that turbine breaks down, we have to send to Denmark for the parts.

I wonder if the engagement of citizens in Denmark isn't somehow related to their decision to become world leaders in renewable energy, specifically wind energy, and whether the citizens of Denmark played a role in helping Denmark come to that determination.

● (1155)

Mr. Darin Barney: Yes, I think that's a very valuable question. One of the assumptions that often comes when people hear people like me talk about increased citizen engagement in science and technology is a kind of fear that that's going to mean a kind of shutting down of scientific development, a sort of irrational constraint on technological development, because citizens are just a bit too skittish or something like that.

But that's far from the case, and in fact I think what has inspired examples like that of the Danish technology board is a kind of simultaneous commitment to the benefits of scientific and technological development, both in terms of economic growth and competitiveness, environmental sustainability and the like, and a very strong sense that that commitment needs to take place in the context of equally strong democratic commitments to making sure that good citizen judgment is brought to bear on technological and scientific development. Then we get the very best kinds of scientific and technological development we can get, and also, then, citizens' investment in that is a kind of authentic investment whereby they feel as though they're not just being sort of asked to sign on to a project that they've never really engaged with, but rather they feel as though their voice matters in the development of scientific and technological priorities, because they believe in them.

Ms. Peggy Nash: Dr. Barney, you mentioned best practices of democratic engagement around science and technology involvement, from the EU primarily. Can you offer those to our committee for our consideration? Is some kind of policy document or a research paper established that you could share with us?

Mr. Darin Barney: Yes, it wouldn't be difficult for me to gather some of that information for you.

As I mentioned in one of my previous responses, democratic engagement is tough enough as it is, but when it comes to complex issues like science and technology, there are additional challenges. There are good ways to do democratic engagement and less effective ways. Yes, I think I can provide some pointers.

Ms. Peggy Nash: Thanks very much.

My question, and perhaps we'll have to wait for the answer, is to the Science for Peace representatives. This committee was very involved around the Radarsat-MDA sale. I think there's a perfect example of technology designed for peace that could have been used for not-so-peaceful means. Part of the challenge now is for our government to invest in the space agency and therefore offer alternative work. We've missed the Mars Rover. It could have had a Canadian flag on it, but it didn't.

What would you recommend in terms of the future of the Canadian Space Agency?

The Chair: Mr. Dorn.

Mr. Walter Dorn: You're quite right, Radarsat-2 has an excellent ground moving-target indicator, which could be used to track trucks in Iraq or it could be used to help peacekeeping forces. It's an example of a technology that's competitive worldwide. It can make a big difference in the field and for the UN. We're just starting to explore that. I'm a consultant to the United Nations on the use of technology in the field.

Fifteen years ago we briefed the interdepartmental committee on space, before the Canadian Space Agency was created, to ask for it to have a mandate to be able to provide assistance to the United Nations in the reconnaissance field. This would be in addition to the kind of work the CSA is doing with DND, but it would also be a link to increase the capacity of Canada to funnel that kind of information.

We've had problems with MDA, which now has a systems contract at the UN for reconnaissance satellite information, but it hasn't worked out very well. Geographic information systems people in the UN have had complaints, so we want to see that improved.

The Chair: Thank you for that brief question, Ms. Nash. You're learning from Mr. Brison. Is there a next question?

Mr. Brison, you have five minutes.

● (1200)

Hon. Scott Brison (Kings—Hants, Lib.): Thanks, Mr. Chair.

Mr. Barney, I'm very intrigued by the notion of an increased level of citizen engagement on issues of science, particularly around young people. I think all political parties would agree it's tough to engage citizens between the ages of 18 and 30. Voter turnout rates within this group are lower every election. They also represent one of the most educated and informed generations in the history of the country. They are interested in issues, but not interested in politics, by and large, and see other ways to make a difference. I think it's a critical question, not just on science issues, but more broadly. If we engage them in discussions on science, we may be able to earn their support at the political level for investment in science. I think you're onto something.

Have you looked at what Don Tapscott and others have worked on in the whole wiki-based, open-platform technological approach where you're taking a vehicle and a community within which young people live—the web? We go to the web to do research sometimes, but we live in meetings. They live on the web and periodically go to meetings. Have you explored the notion and premise of wikinomics and others as a vehicle?

You talked quite a bit about institutions and an institutional approach to this. I think when we start talking about institutionalizing this, their eyes glaze over. I think there may be a more direct technologically based approach that even by the nature of how we do it would be innovative.

I'd like to get your feedback on that and whether some country or organization is doing a good job of harnessing technology as a vehicle to engage this vital generation in these vital debates.

Mr. Darin Barney: Yes, youth engagement in general is very important, certainly around science and technology issues.

One of the things I would say about youth engagement in particular is that one of the ways we need to engage youth at an early stage in science and technology is not only in the promotion of science and technology in order to stimulate them to possibly take up careers in those fields—that's very important—but we also need to start engaging them as citizens whose voices matter on important questions like science and technology. I think we need to start building critical literacies around science and technological issues when they are very young, so that when they move into positions where they are ready to be politically engaged, they have developed the habit of thinking critically about scientific and technological issues.

As you say, youth, perhaps more than people of our generation, live much more directly in a technologically saturated environment every day. They live in networked environments as if it were the air around them, so they're already very engaged, not with technology as a means of socializing, but they think very deeply about issues surrounding, for example, the development and regulation and governance of network technology. That bears on their everyday social practices in a direct way.

If we can identify scientific and technological issues that matter to their everyday lives and come up with processes where their voices matter on those questions, I think they will be engaged. And using new technologies they're already quite immersed in might be one road toward doing that.

I still think you need an institution to configure those exercises well, but I think—

Hon. Scott Brison: Thank you.

Ms. Ross, do you have a comment?

Ms. Tracy Ross: Yes, absolutely. Thank you, Mr. Brison.

I am listening to this with great enthusiasm, and I am looking forward to working with Mr. Barney when this becomes established.

I would love to reiterate that science centres absolutely are engaged with the youth population, and my colleagues can attest to that and add to it.

I have a couple of examples to offer to you in terms of the citizen engagement that science centres are looking into: YouTube, Flickr, discussion boards online. Because we are always in search of our audiences, we are in search of those and those programs that happen.

We've had exhibitions lately that have crossed Canada, on climate change and Genomix, that are absolutely finding ways to engage those audiences.

● (1205)

The Chair: Thank you.

Thank you, Mr. Brison.

We'll go to Mr. Van Kesteren, please.

Mr. Dave Van Kesteren (Chatham-Kent—Essex, CPC): Thank you, Mr. Chair. Thank you, witnesses, for coming.

I want to direct my question to you first, Mr. Barney. I asked this question on our tour across the country to one of the academics, or one of the presidents, who I think was a member of the University of British Columbia. I'm curious. In your opinion, have we struck the right balance between encouraging research, for our economy, for the benefit of scientific...? In other words, what we're trying to do as a government.... Obviously, this is our task. We're spending an awful lot of money, but have we struck the right balance between research for economic development and scientific investigation, pure science? Are we treading in areas that hinder you, do you feel, or is the government moving in the right direction?

Mr. Darin Barney: That's a complex question. I think there has been a quite extraordinary move in recent decades in the direction of conceptualizing science and technological development solely in terms of economic growth, national competitiveness. I think the innovation strategy has been almost over-burdened with that kind of rhetoric. In my view, that has led to institutional arrangements that in some cases compromise the independence of scientific research.

But another outcome is a kind of depoliticization of science and technology. We're consistently given the message that there's a national crisis to which the only viable response is massive public investment in scientific and technological development. Such an investment would create a science culture, but a science culture in which people aren't encouraged to ask questions about science and technological development, because they're consistently told that we need to get on board or there's going to be a national economic disaster.

As important as science and technological development is to economic prosperity and viability, if our investment in it comes at the expense of our ability to ask questions about the social implications of scientific and technological development, or if it comes at the expense of the independence of scientists to pursue avenues of inquiry that often get labelled “pure science” and have no immediate economic benefit, then we're going down the wrong road. I think, at least on a rhetorical level, there are some alarm bells to be paid attention to here.

Mr. Dave Van Kesteren: Mr. St-Onge.

Dr. Denis St-Onge: It is correct that because of the push for innovation there was a de-emphasis on the investment in curiosity-driven, long-term research. Your assumption is correct. However, increased funding in NSERC in the last few years seems to be reversing this trend.

There's a note that needs to be made here. Canada is a small country, and we cannot be expert in everything. It is important that the science policy in Canada have some priorities. We cannot be good in everything—that's impossible. We're not big enough; we're not good enough in everything. We need to have priorities that we can concentrate and be excellent in, but we cannot be in everything. We need centres of excellence.

Mr. Dave Van Kesteren: Do you feel that our recent move for a council of scientists that advise the government is moving us in the right direction?

Dr. Denis St-Onge: Absolutely. We pushed hard for several years to have this national academy created. Now that it is created and is funded reasonably well, it should provide sound advice to the government on what these priorities should be. So, yes, we support it strongly.

Mr. Dave Van Kesteren: I'd like to ask the folks with the science centres about the numbers. I don't think anybody has given us the numbers. Are the numbers for visitors up or down? How many visitors do you have a year? Can you get that for us if you don't have it right now?

● (1210)

Mr. Scott Langen: I know it's more than eight million when you look at all member organizations combined. Over the last four years there's been an increase, partly because our membership has grown. So that drives it.

Mr. Dave Van Kesteren: Could you get the numbers for us?

Ms. Tracy Ross: For your information, there is a list of our members in the back of our proposal. It is available to the members.

Mr. Dave Van Kesteren: Thank you.

The Chair: Monsieur Vincent.

[*Translation*]

Mr. Robert Vincent (Shefford, BQ): Thank you, Mr. Chair.

Mr. Barney, in the brief that you presented to the committee in April, you talked about public consultation, like we are having today. You said that:

> ...public consultation exercises oriented to adding a veneer of legitimacy to decisions already taken elsewhere, or to testing communication strategies for public relations campaigns surrounding a given policy or regulatory measure, undermine democratic engagement with science and technology more than they support it.

Can you give us one example where public consultation is effective and one example where it is ineffective? How can we involve the public in an effective process?

[*English*]

Mr. Darin Barney: This goes to the question of the complexities of the design of consultation processes in general.

I've been involved over recent years in consultation processes in a whole variety of forms. With some of them, you arrive and are given a fairly narrow set of options to consider at the outset. Your discussion is solicited, perhaps briefs are invited, and you leave the table feeling as though what you had to say will have absolutely no impact on the outcome of the proceeding, because the decision was already made prior to the proceeding.

Then somewhere down the road you end up seeing the communication strategy that surrounds that policy decision or that consultation, and you know that what you said mattered not so much to the outcome of the decision as to the communication strategy that came out of that meeting. You were almost like a test subject upon whom certain kinds of policy options were given a test flight to see how people would respond, so that the communication strategy could be better crafted.

There are many of those kinds of consultation exercises, and I think there's a wide variation of quality in the consultation that goes on throughout the federal government right now. The consultations leave people more discouraged about engagement and less likely to engage again down the road. Those kinds of practices need to be avoided.

Better kinds of consultation practices are those that involve a high degree of deliberation, that allow people to participate in setting the agenda, that combine expertise with engagement, that give people access to very good information, that allow them to ask questions of experts who are charged with responding to them comprehensively and in a language they can understand, in which they're given a good deal of time to deal with the issues, and in which the outcomes that arise from the consultation process have an identifiable role to play in the policy outcome.

That doesn't mean the outcome of the consultation becomes the policy, but at least there's a sense that there's a very real meaning to the consultation that's going on and that the results are communicated in an effective way to those who participated. Those are the elements of a better structure for consultation than what I described before.

[*Translation*]

Mr. Robert Vincent: Thank you.

Mr. Paul, you mentioned the ecological footprint. What is that?

Mr. Derek Paul: We refer to that in our brief. The concept was developed by William Reese, a professor at the University of British Columbia. His theory is that it is possible to measure the land area needed to sustain a given population, Canada's, for example, and to partially assimilate the amount of waste it generates. Basically, there must always be somewhere to bury or convert waste. Then, you must calculate the area that you presently have in order to meet these needs.

In almost every country in the world, this footprint has been exceeded. In the Netherlands, for example, which is a very small country, it has been greatly exceeded. The factor varies according to the source you are reading. I have seen references to a factor of nine to nineteen times. So, a much greater area of productive land is needed to sustain a population like that of the Netherlands.

Because our land area is so vast and our population is quite small, Canada is one of the only countries in the world that has not reached this dangerous threshold.

What does passing the threshold, or living on too small an area, mean? It basically means that we are borrowing from what we should be leaving to our descendants. We are borrowing from our grandsons and granddaughters, our great-grandchildren and so on. We must keep checking our ecological footprint from year to year to see if it is getting bigger or smaller.

One of our recommendations is to urge everyone in Parliament to understand this principle and to read what Professor William Reese has written. His most recent document is a chapter taken from a book published in 1996. You will find the reference in our brief. I implore everyone to read that document.

● (1215)

[*English*]

The Chair: Thank you.

Merci, monsieur Vincent.

We'll go to Monsieur Arthur.

Mr. André Arthur (Portneuf—Jacques-Cartier, Ind.): *Merci, monsieur le président.*

It is the duty of government to subsidize science—I can understand that—and it is the duty of the scientists to convince government that pure science is so much more fun when they do it with big budgets. But isn't it also the duty of the scientific community to convince the public—"Joe Canadian", who wakes up every morning, goes to work, and will probably not send his children to universities subsidized with his money, and whose taxes will be used for all kinds of projects he does not understand and that have no established priorities he can adhere to—so that "Joe Canadian" will ask the government to subsidize science, and we will not always have you, as poor beggars, trying to get the government to give you more money?

At some point you will have to become convincers, not beggars. Do you realize that you have been doing a horrible job of convincing the public to force government to subsidize science?

Monsieur St-Onge.

[*Translation*]

Dr. Denis St-Onge: That is an excellent question, sir.

You are perfectly right, and it is always very difficult to try to make the link between pure science and the needs of society. You are perfectly right there.

Clearly, our colleagues in the national museums are doing an excellent job, for that very reason.

It is also true that magazines like *Canadian Geographic* or *Géographica* specifically aim to make the general public aware of science.

I am sure that you are familiar with the arctic research project called ArcticNet, with Louis Fortier and the ship called the *Amundsen*. That whole organization is specifically set up to communicate its research to the general public. Recently, they have come up with a plan in which Mr. Fortier will not come to ask you for money by himself. The request will also come from the public.

● (1220)

Mr. André Arthur: Most of the scientific community's visible efforts to convince the public to push the government towards greater support of science have almost all been in the area that they used to call global warming. But since nothing happened there, they now talk about various kinds of global warming. That means that they can go in either direction; they are always right.

I wonder if, in other areas, in the everyday science that we need, Canadians are sufficiently informed about the need.

One day, Canadians are going to turn and ask the government if it has finished spending taxpayers' money on silly things or on ivory towers.

Dr. Denis St-Onge: You used the word "sufficiently". Clearly, it is not sufficient. I agree with you on that. I have no simple answer to your question, in fact...

Mr. André Arthur: Thank you, you could not have answered my question better. Thank you, Mr. St-Onge.

Dr. Denis St-Onge: Perhaps other people can answer.

[*English*]

The Chair: Thank you.

Mr. Langen, please.

Mr. Scott Langen: The example that I can think of locally in Saskatchewan is the synchrotron, and I know this committee has toured there. There's a colleague of ours who works as the education coordinator of Canadian Light Source, and about four years ago the synchrotron was quite aggressive in getting school groups through, and the kids talked to their parents.

Today, Saskatoon brags that it's the science city of the province, so you do have a community that all of a sudden gets it and appreciates that investing in a synchrotron has a greater impact. But they have made the effort to engage kids and families and visitors and groups. Saskatoon is also a good example because the Saskatchewan Research Council, for every dollar invested provincially, generates an additional eight dollars from the private sector. So I think they have good citizen engagement, and they also have a good P3 model, if you will.

I can't speak beyond that, as it's not my forte, but I know about the synchrotron, as we've worked with them a bit on building more awareness and support and interest.

The Chair: Thank you.

Merci, monsieur Arthur.

Thank you, ladies and gentlemen.

I am loath to end this discussion, but we do have two motions from two members presented for discussion at the committee today. Unfortunately, we'll have to end the discussion here.

I want to thank you all for your presentations and very specific recommendations, which are exactly what the committee had asked for, and we appreciate it.

There was one clarification I did want to get.

Mr. Rutherford, in your presentation you made four recommendations, and I very much like the recommendations. In the fourth recommendation, you talked about an approach towards big science projects, and about the national science advisor, who had started on a document.

Our analyst has given me a draft discussion paper from January 31, 2005, and it seems to me that it's a very good document. It was the beginning of the analysis and the process you want completed. Is that correct?

Mr. Ian Rutherford: Well, not necessarily that specific process, but the product it was aimed at needs to be produced. We do need a strategy in the mechanism.

The Chair: And you want us to encourage the science and technology committee, the STIC committee, to look at this issue, then. Is that correct?

Mr. Ian Rutherford: Either it or the Council of Canadian Academies could look at the situation of Canada's participation in big, and international, science.

The Chair: Thank you. I just wanted to clarify that.

Thank you all for your presentations.

If you have anything further to say or any information you want the committee members to have, please submit that and we will ensure they all get it. We thank you for your time today.

I'm going to suspend, members, for about one or two minutes, and then we'll go back to the two motions by Mr. Eyking and Ms. Nash.

● (1225)

(Pause)

● (1230)

The Chair: I call the meeting back to order. We have two motions before us today.

I want to touch upon two items before we go to the motions. As those of you who were on the trip know, at the end of the trip, on the bus, I read out the main topics emerging in this study we're doing on science and technology. The research document has been put together by Eleanor and will be e-mailed later today. I'd like members to review the list. This is something we'll constantly review as we go through the study. If there are any more topics or any questions, please ask Eleanor. I think it's an excellent way to keep the main topics at the top of our minds.

Second, there will be a subcommittee meeting on Tuesday, June 10, at 10 a.m. There are at least two issues I want to discuss there, and if you have more items, please let me know. We should talk about Bill C-454. We have to report the bill back by October 26 or 27, so we need to decide exactly how we'll handle it.

We should also talk about travel and doing the central and eastern parts of the trip in the fall.

If anyone has any further items, you can let me know after the meeting.

Now we'll go to the motions by Mr. Eyking and Ms. Nash. You should have them both before you.

Mr. Eyking, we'll have you introduce your motion.

Hon. Mark Eyking (Sydney—Victoria, Lib.): Thank you, Mr. Chairman.

I'm bringing this motion forward because on Monday the Canadian Tourist Association came out with a report showing there's been a more than 12% drop in visitation to our country, while worldwide there's been a more than 6% increase. The main reason for that, of course, is because of the U.S. economy.

They have a list of recommendations and reasons why that's happening. But just to sum it up, they represent one-tenth of our economy and over 12% of our workforce.

Asking them to give a short presentation here about their situation and what the government can do to help them with this upcoming season would be very good for our committee. It would show good faith and that we're genuinely interested in what's happening in that important industry.

The Chair: Thank you, Mr. Eyking.

We'll go to Mr. Stanton.

Mr. Bruce Stanton: Thank you, Mr. Chair.

I thank the honourable member for bringing this motion forward. I've also had a chance to look at the competiveness report that TIAC distributed on Monday. The thrust of this report is in two key areas. One is the marketing side, and the other is a very critical component of the airport access issue that will come out of TIAC's presentation here.

I wonder if we might consider extending this panel to an hour and a half. On Thursday, we could take the first hour and a half for our regular business. Then if we took the committee through until 2 p.m., we could get an hour and 30 minutes in and consider adding the representatives of the Canadian Tourism Commission and possibly a third witness. I'm not sure whether the third witness should be from the commercial air transport community or the airport authority community, but maybe the latter. They could speak specifically to this issue of airport access, which seems to be a crucial piece of the competitiveness report.

I'd suggest that in the form of a friendly amendment to the motion, if the sponsor will consider it.

The Chair: Mr. Stanton, can you clarify this for the committee? Mr. Eyking is suggesting a one-hour panel on June 12. You're fine with the date, but you're suggesting we have an hour and a half for big science, and then at 12:30 we switch and do an hour and a half on the Tourism Industry Association of Canada, the Canadian Tourism Commission...and who else?

Mr. Bruce Stanton: I'm suggesting we have representatives of the airport authority community.

The Chair: Madame Brunelle.

[*Translation*]

Ms. Paule Brunelle: Mr. Chair, it seems to me that we looked at tourism when we studied the service sector. I do not remember whether we spoke to the Canadian Tourism Commission. Perhaps we did. Anyway, we talked about airports. It is already in the report we have to submit.

I wonder what the goal of this study is. What do we think we can do in an hour or an hour and a half? How far would we get? What is the intent of the motion? In order to vote for this, I need some reasoning.

[*English*]

The Chair: That's a good question.

We'll go to Mr. Eyking.

Hon. Mark Eyking: On the two issues at hand here, I think one reason that we should have them in now is because of the past report that just came out Monday; it really changes the situation with the tourist industry. I think we should have them come to the House of Commons to explain the situation and the things that can be done. I think it's very important right now. It's a very important industry right across this country. For them to come here and present it for the record, and for us to understand it, I think it could also lead us down the road in future business to how we can help them.

On the other point, Mr. Stanton, I think one of the main objectives in their report, or main concerns, was the whole issue of air access. I think it would be very good, because it's one of the main issues in the report to bring somebody in that's on the ground, whether it's from the GTAA, or the Montreal airport, or whatever airport authority, to really explain how they could help with this industry that's going through these troubled times.

● (1235)

The Chair: Thank you.

We'll go to Mr. Simard, and then to Mr. Stanton.

Hon. Raymond Simard: Thank you very much, Mr. Chair.

I think my colleague's proposal is very interesting. It's basically an emergency debate that we're having here in the committee. I think Mr. Stanton's proposal is also very reasonable. My only concern is that big science is probably one of the main issues we're looking at right now in our current study, and to have people coming in from all over Canada and limit it to an hour and a half concerns me a bit.

I don't know if there's another option we can look at—a separate meeting on tourism. I'd be willing to do that. At the same time, if the compromise and the consensus are what Mr. Stanton proposed, I would agree with it. I'm just concerned that big science will be a very interesting meeting and that we're going to have a lot of questions for these people.

The Chair: Mr. Simard, just before I go to Mr. Stanton, I'll put my own view on the record. All of these topics that are being brought forward by motions are all very legitimate topics. Any time we limit witnesses, as I did today, we limit the discussion this committee is having on a very important study. Members are free to bring forward motions on very interesting and substantive topics, but I would agree with that point. Any time we limit discussion of the committee, we're going to make the report weaker, in my view.

We'll go to Mr. Stanton.

Mr. Bruce Stanton: On that point, Mr. Chair, we'd certainly consider moving it off, if we had to, to the following Tuesday, June 17, as opposed to June 19, because that's perhaps a questionable day in terms of our parliamentary calendar. I don't know whether the mover would consider that.

I did want to just respond to the one point Madame Brunelle made. It's true we did have TIAC on the service sector study. We did not have the Canadian Tourism Commission. I don't believe we had the airport authority community represented in the course of that service sector study. This would be new testimony for the consideration of our committee.

The Chair: There's a proposal before the committee. I think Mr. Stanton has proposed it. We don't have to do it formally, unless the committee wants to. He has proposed what he considers a friendly amendment. Mr. Eyking seemed to accept the friendly amendment of the one-and-a-half-hour panel. So basically the motion would be that the Standing Committee on Industry, Science and Technology hear from the Tourism Industry Association of Canada, the Canadian Tourism Commission, the airport authorities, and other relevant witnesses during a one-and-a-half-hour panel on Thursday, June 12, on the subject of the Tourism Industry Association of Canada's recent report on the decline of tourism in Canada.

That panel would be from 12:30 to 2 p.m.

(Motion agreed to)

The Chair: Thank you, members.

We'll go now to the motion by Ms. Nash.

Ms. Nash, we'll have you introduce and explain your motion.

Ms. Peggy Nash: Thank you, Mr. Chair.

My motion, as you can see, calls on the standing committee to hold an additional meeting to invite representatives of the oil and gas industry and relevant witnesses to come before the committee to explain the reason for the increases in the price of oil and gas.

Gas prices have spiked dramatically. It's affecting Canadians all across the country. The biggest question people are asking is why. We need to have a better analysis of those reasons. Therefore, I think it's important for our committee to hear from the oil and gas sector, investors, retailers, and refiners to hear from them what they view as the rationale for the spike in oil and gas prices. Is this something that's going to continue to be an issue in the coming months, perhaps even in the coming years? We don't know. We want to know why this is happening and see if there's any potential action this committee needs to recommend.

● (1240)

The Chair: Thank you, Ms. Nash.

We'll go to Mr. McTeague, please.

Hon. Dan McTeague (Pickering—Scarborough East, Lib.): Thank you, Chair.

I want to thank Ms. Nash for the motion.

I think it provides an opportunity to deal with a growing concern that affects all of our ridings. It is certainly something within the reach of a study by the industry committee. I recognize that we have quite a burden. In discussing this matter over many years with stakeholders, retailers, independent gas retailers, analysts, and those upstream and downstream of the oil industry, I would take Ms. Nash's comment that the biggest question for everyone is why. If we had an answer to that, we would probably be light years ahead of most.

I am, however, suggesting that there is a substantial correlation between these futures commodities markets and the recent activity of non-regulated transactions taking place on foreign exchanges in light of some of the changes. Two relevant markets are NYMEX, and of course London's IntercontinentalExchange. Without belabouring the point, it is becoming increasingly clear—there was a series of stories in *The Globe and Mail*—that there appears to be a complete disconnect between the market fundamentals, the primacy of supply and demand, and the relationship with the price of energy. We're not just talking about gasoline and oil; we're also talking about food and natural gas.

I take it that Ms. Nash's comments on oil and gas mean natural gas as well as gasoline.

I would ask the committee to be more focused in what we are looking for, because I believe this is a very important journey we should undertake. I realize that time is of the essence. Perhaps a recommendation could take place as to how we do this.

I would propose a friendly amendment to Ms. Nash's motion that would read as follows:

> That the Standing Committee on Industry, Science and Technology hold additional hearings to invite representatives of the oil and gas industry, pension fund managers, institutional investors involved with global electronic exchanges, and relevant witnesses to come before the committee to explain the reason for the increase in the price of oil and food on the futures commodities markets.

I've made a small change there.

I invite members to comment on this, because I think it would allow us to zero in on why we are experiencing the difficulties we're hearing about from so many of our constituents.

Mr. Carrie has perhaps a greater burden than most of us at this table in light of the announcements yesterday in Oshawa. That impact cannot be underestimated. We have to know that the relationship to supply and demand and inventories are in fact accurate and exact and that Canadians, like the rest of the world, are not beholden to higher prices.

Chair, that's my recommendation. I'm hoping, through you, that we can hear from other members. I hope this proposal, as initiated by Ms. Nash, is acceptable to the committee.

The Chair: Mr. McTeague, could I impose upon you to read it in French?

[*Translation*]

Hon. Dan McTeague: In French, it would read:

> Que le Comité de l'industrie, des sciences et de la technologie tienne des séances pour inviter les représentants de l'industrie pétrolière, des fonds de pension, des investisseurs institutionnels qui sont impliqués dans des échanges électroniques de bourses à l'échelle mondiale et tout autre témoin pertinent à comparaître devant le comité pour expliquer les raisons des augmentations des prix de l'énergie, entre autres l'huile et l'essence, ainsi que de la nourriture et sur les marchés...

In English, we say "the commodities market". I do not know how that would be translated.

● (1245)

[*English*]

The Chair: The translator is not sure either.

[*Translation*]

Hon. Dan McTeague: Okay. Thank you.

[*English*]

The Chair: Sorry to put you on the spot.

[*Translation*]

Hon. Dan McTeague: If not, better change jobs.

[*English*]

Sorry, Chair, I should have had that in French.

[*Translation*]

I should have done that, but I drafted it this morning.

[*English*]

The Chair: I have Mr. Carrie.

Mr. Colin Carrie (Oshawa, CPC): Thank you very much, Mr. Chair.

I want to thank my colleague, Madam Nash, for bringing this forward.

I agree with my colleague, Mr. McTeague, about an additional meeting. I don't think it would do it. If we're going to study this, we should do a relatively good job with it. I also like his idea of inviting more stakeholders to see if we can really get our heads around what's going on.

I do want to recommend another friendly amendment, that instead of studying it in committee—because we have a pretty full agenda—we would study it in the subcommittee and limit it to perhaps three meetings. I know there's going to be difficulty with scheduling the full committee to really look at this in a reasonable way, so I think that might be a good way to do it. We could take Mr. McTeague's friendly amendment and just add that we recommend it be studied at subcommittee for approximately three meetings. We could determine where and when at the subcommittee meeting on Tuesday.

But I'd like him to clarify what he says about “journeying”. When he says we're entering this journey, does he mean travelling to Houston, Dubai, and Calgary, or what is his recommendation? I'm just looking for clarification.

The Chair: We have a lot of friendly amendments here today. The subcommittee would be the chair, the two vice-chairs.... Would it be the subcommittee we have normally, with you and Ms. Nash?

Mr. Colin Carrie: I would recommend a subcommittee group, and maybe we could discuss that further on Tuesday to see the make-up, because I don't think we can really look at this in one meeting. I think we should actually do it right.

The Chair: The recommendation is to study this in the subcommittee, to have three meetings, and to clarify that “journey” section.

I have Madame Brunelle.

[*Translation*]

Ms. Paule Brunelle: Mr. Chair, I am quite uncomfortable seeing all these motions coming one after another. I am not sure that the amendments are really acceptable. The amendments change the original motion so much that we are now suggesting the creation of a subcommittee. That has to be considered a major commitment. I was part of a justice subcommittee that held more meetings than the aboriginal affairs committee. Sometimes, you bite off more than you can thought you could chew at the outset. We have to decide what we are committing ourselves to when we consider that.

I had the pleasure of joining this committee last year. It was studying gasoline prices. At the end of the day, it achieved absolutely nothing. We heard from a large number of witnesses. I remember proposing it myself. It seems to me that this committee is doing endless studies that are leading absolutely nowhere. I see it as just a way to avoid doing something. I am very reluctant to spend taxpayers' money. I thought that the Conservatives were good managers. I am shocked that you are suggesting that an expensive subcommittee do a study that will achieve nothing.

The Bloc Québécois had a solution: the Competition Act. Members of this committee did not agree with that solution. We are going fishing with no idea whether there are any fish in the lake. Personally, I am not in favour of this motion.

[*English*]

The Chair: Merci, Madame Brunelle.

We'll go to Ms. Nash.

Ms. Peggy Nash: I would argue that the motion is in order. While I think Mr. McTeague's concerns about who would come as witnesses, etc., could be incorporated into the existing motion, I don't oppose a change in wording. I think the intent is in keeping with the intent of the original motion. I am not opposed to further meetings on the oil and gas issue, because it is such an important issue. When I suggested one meeting, it was simply out of respect for the heavy workload this committee is undertaking. But I'm in favour of expanding the hearings to three meetings, because I believe it is important. Our constituents expect us to try to get our arms around this issue.

As to whether we have the subcommittee or the full committee, as the lone NDP representative on the committee, it's all the same to me. I will be there, whether it's a full committee or a subcommittee meeting. If we end up meeting over the summer, I think a subcommittee is a more flexible instrument for getting all of the members engaged. There is no timeframe on this, and I would like to clarify what the committee members think about the timing of meetings. I had suggested one meeting, because I had hoped to do something before the House rises. A subcommittee and three meetings—that is less likely to happen before the House rises.

I think we should discuss the timetable. I don't want to have this go on for months on end. I think our constituents expect us to take action, and I'd like to get this moving. But I'm not opposed to any of the friendly amendments being suggested; I see them as friendly.

● (1250)

The Chair: The three questions we need to answer, certainly the three that I need answers to, are when, how many, and with or without a subcommittee. We could do as Ms. Nash said: one meeting now, and we could do summer or fall.

Ms. Nash, I'm going to clarify with you, and I'll go through each party. You're okay with three meetings and the subcommittee, and you prefer it to be when?

Ms. Peggy Nash: I'm not opposed to meeting over the summer.

The Chair: But what is your preference? Does it matter to you, summer or fall?

Ms. Peggy Nash: My preference would be over the summer, but I'm not opposed to early fall.

The Chair: Mr. McTeague.

Hon. Dan McTeague: Thank you, Ms. Nash. I appreciate the involvement and comments by Mr. Carrie and Mr. Stanton.

I would want to make sure the subcommittee involves all members of this committee. It isn't exclusive to the steering committee, and I don't want that confused here. There seems to be some question about whether we're referring to a subcommittee. This subcommittee would be tasked with the responsibility, and I think three days would be sufficient. If that's the vehicle that members are comfortable with, I'm comfortable with it too.

I understand Madame Brunelle's comments with respect to the importance of the Competition Act, but the Competition Act and the competition commissioner have no reach as far as international exchanges are concerned. Since it's international pricing that is driving up the cost of energy and food, I think this committee has to be precise in recognizing the realities that are driving the prices up.

That's not to take exception. I think the intention of my two friends in the Bloc Québécois are sincere. They're on the right track as it relates to that part of the industry. I don't think this motion takes away from the ability for us to call in the commissioner, but it will allow us to add support to a growing concern that Canada, like many other nations, will find itself beset by bursting commodities bubbles, as we've seen with housing and dot-coms. We need to work as hard as we can to close the Enron loophole.

Having said that, I am not adverse to meeting this summer. In fact, it might be suggested that we meet in two-week intervals, perhaps at the end of the month, perhaps next week. I don't know. I don't want to encumber the agenda of the committee. Then we could meet once in August. We would make recommendations based on what we've learned.

As to the other point the Bloc has raised, that Madame Brunelle has raised, I think we want to make it abundantly clear that there will be not just

● (1255)

[*Translation*]

to look at the situation, as they say, to hear about how big the problem is, but also to make recommendations to Parliament, by consensus, I hope.

[*English*]

The Chair: We have five minutes. I have to host something at 1 p. m. I'm going to have to leave, so the vice-chair will have to take over for me.

An hon. member: Can't we bring it to a vote now?

The Chair: I'd prefer to vote, but I have Mr. Carrie, Mr. Vincent, and Mr. Simard.

I think the three issues are what I'd like to clarify. Mr. Carrie, do you want to...?

Mr. Colin Carrie: Really quickly, I would say I'm in agreement with Madam Nash. I think we could arrange late summer, early fall meetings and we can vote on it. I think your approach is very good and is different from what we did in the past. That's why I think I'd be very supportive; I want to get something out of this.

Hon. Dan McTeague: Mr. Chair, there is no question on our side.

The Chair: Okay.

I want to hear Mr. Vincent, because my understanding with the Bloc is that they don't agree with the subcommittee, so perhaps the Bloc, Mr. Vincent or Madame Brunelle, can clarify. Do they oppose the motion entirely, or would they agree? If so, when, how many meetings, and is a subcommittee acceptable? The subcommittee, as I think Mr. McTeague outlined, would be whoever would want to be part of that committee. That's how I read it.

Mr. Vincent.

[*Translation*]

Mr. Robert Vincent: First of all, we are opposed to this motion. Second, if a motion is passed, we do not want to sit during the summer. Third, I am going to tell you why we are opposed to this motion.

I can understand the reasons why gas prices are going up. I put myself in the public's shoes, and I ask myself what we can do about it. We will never be able to find a real solution, because we have no control over the price of the barrel of oil. So, as Ms. Brunelle said earlier, spending even more of the public's money to do a study that will end up with more questions rather than solutions is of no use whatsoever.

Anyway, we already did this study at the same time last year. Prices go up each year when the holiday season comes along. We could do the same study each year because the price of gas always goes up at this time of year. At some stage, we have to stop spending money. We know that there is nothing we can do to change it. Let us stop pulling the wool over Canadians' eyes by telling them that we can do something when we cannot.

[*English*]

The Chair: Okay. Merci, Mr. Vincent, you've made the position very clear. Ms. Nash suggested to me that if the motion does pass, we clarify the exact timing at the subcommittee on Tuesday.

We're going to try to read this motion that's procedurally been amended by two friendly amendments, two friendly people.

The Clerk of the Committee (Ms. Michelle Tittley): I'll do my best. I've incorporated what members have indicated:

> That the Standing Committee on Industry, Science and Technology strike a subcommittee to hold approximately three meetings in the late summer or early fall to invite representatives of the oil and gas industry, pension fund managers, institutional investors involved with global electronic exchanges and relevant witnesses to come before the subcommittee to explain the reason for the increase in the price of oil and food on the commodities market.

The Chair: I'll call the question then. All those in favour?

(Motion agreed to)

● (1300)

The Chair: Members, we'll have to do the service sector report on Tuesday then. As a reminder, we do have a subcommittee meeting at 10 a.m. on Tuesday morning.

Thank you. The meeting is adjourned.

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