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Chair

Mr. Mark Warawa

Standing Committee on Environment and Sustainable Development

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● (1605)

[*English*]

The Chair (Mr. Mark Warawa (Langley, CPC)): I call the meeting to order.

I want to welcome everyone to meeting number 57 of the Standing Committee on Environment and Sustainable Development as we continue our study of urban conservation practices in Canada.

Our apologies for a little delay. We had a vote in the House of Commons.

Each of the witnesses will have up to 10 minutes for a presentation, and then we'll follow that with some questions for you.

Michael Ricketts, you may begin, please, for 10 minutes.

Mr. Michael Ricketts (Head Gardener, Bridgeland-Riverside Vacant Lots Garden): I'm here because I've spent a lot of time trying to conserve things in the city of Calgary. I've found I've had a lot of push-back, and a lot of the push-back comes from the aldermen in the city who have other plans for the lands.

I was very interested to find out if you're doing conservation in an urban environment. I have lots of good examples to talk about, what I've tried to do and some of the things I've achieved, but I can also tell you I had to do a lot of thinking on why the federal government would get involved. I think I have the answer. Depending on the time allowed, I can talk about that.

The Chair: Mr. Ricketts, are you aware of the scope of the study?

Mr. Michael Ricketts: Of what you're doing?

The Chair: Yes.

Mr. Michael Ricketts: I've seen your objectives.

The Chair: There are seven questions, so could you use that as your framework? It still gives you quite a bit of latitude, but hearing about your local experience would be very informative.

Mr. Michael Ricketts: What I like about Calgary is it's almost a microcosm of every place, every constituency that's represented here. I've looked at where everybody is from. I was in the military for 20 years and I've lived all across Canada, so I've lived close to or in most of the locations where everybody is from. Calgary is totally different from the point of view that the....

In 1962 I went to a national youth conference, training for the summer. I had to do a talk about Calgary and why Calgary was unique. Everybody knows about the zoo, the Calgary Stampede, and the mountains, but nobody realizes that in Calgary, when I was growing up, there were four trees. Each tree became a park. Calgary is in the middle of the prairies, and there are no trees naturally around Calgary, except for scrub trees. Calgary is now very well treed, but every tree has been planted by somebody in the last hundred years.

It really bothers me, then, that people have the ability to chop down trees. Calgary, when I grew up, had a population of just over 100,000. Now it's well over a million, so there is no common culture in the way most of you would have a common culture in your area. Our culture is not predominantly redneck; it's a mélange. It's a grouping of everybody from everywhere. That's part of the problem.

People come in and they feel they can chop down trees, and they don't realize that the tree they've taken down took 80 to 100 years to grow and that the tree they plant won't be the same size for another hundred years. The reason for that is the chinooks, and I think everybody knows about the chinooks. They change the weather so precipitately in Calgary that trees are fooled into thinking it's spring and they start to grow. Then the weather goes back to 30 below the next day and kills off the trees.

There are a number of things I did, but the big one, which I talked to Michelle about, was this. Right in the area where I live, there are gardens. I assume they were originally community gardens. They were started in the early 1900s in Calgary. For the people who lived in Calgary to get vegetables, they had to buy them from the CPR, the Canadian Pacific Railway. The main reason for Calgary's location was that the railway went through it. Vegetables were very pricey. They were hard to come by and usually they weren't very good quality.

In 1912 a lady named Annie Gale, who went on to become one of the first female aldermen in the British Commonwealth, got together and decided.... Calgary was boom and bust all the time. There was a big bust in 1912. The economy cratered. There were all these lots in the city, so she said, “Why not turn these into vegetable gardens and allow the people who live there to grow vegetables? That will help them out. It will be a win-win situation. It will beautify the land for the city and keep it that way.”

That happened in 1912. The particular piece of land I was looking at could be traced back to the 1920s. We could trace it back as a garden since the 1920s, because the fellow who was in there gardening had moved there at the age of 10 and was still gardening there, and 80 years later—he's 90 now—he's still out in that garden gardening.

One day the city authorities came and posted that there was to be no more garden. It was going to be a condominium development. That bothered me. I took it on as a personal challenge. It took a year and a half, but we got it declared a heritage site and subsequently got it turned into a city park, so that will be there forever.

It's an absolutely beautiful area. It's a 10-minute walk from the centre of Calgary. Part of what we did when it became a city park was to put up benches. People come and sit and look at the garden. People are enthralled by it.

This is another neat statistic. I talked about the diversity of Calgary. When you go into the garden, you get a real picture of what Calgary is like. There are people from everywhere. The only person actually born in Calgary is Marsh Libids, who is the fellow who moved there in the 1930s. Everybody else is from England, Holland, Afghanistan, or Vietnam. I'm thinking about who else is around the table. There are 12 gardeners in there. Everybody except for Marsh is from someplace else.

It's a very neat location. It's a very interesting way to get people together and to mix with and meet other people.

● (1610)

There's a huge demand for people to get into the garden. Unfortunately, the garden has to be kept as a historic site. They have to show it the way it always was, so we can't take a lot of people in there; otherwise, it would be just little small community garden plots. I'm pushing to get some more land now to make community gardens.

In that neighbourhood, part of our problem is that the city has decided they want to densify to get more people into that neighbourhood. They took over all the recreational land for the community centre and they've turned it into sites for high-rises to be built to bring more people into that area.

This is where I start thinking of your involvement. They don't have the vision and the realization that by bringing in lots of people, they're taking away all the recreational land. There is nothing for young people to do in that neighbourhood. I think that might tie in with what Dr. Reeves is going to talk about in a little while. We've got all these young people with nothing to do. Well, they find things to do.

I also protect the natural growth prairie area, which seems to have a fire once or twice a year. I know at least a couple of them have been caused by young people, but a couple have also been caused by homeless people who wander through that neighbourhood because it's so close to downtown.

There are many issues there, but to sum up, what I would look for and what I would see the role of the federal government to be would be to supply some sort of overriding vision for what green space in the city should be and how it should be used.

I think many of the problems we have come from the nearsightedness of city planners who don't see beyond an immediate problem they have to solve, as well as the constant changing of aldermen every three years, who also don't really have a take on what's going on. They make decisions that often are developer-driven. For some reason, if a developer sees green space in the middle of the city, they can think of a thousand things they can do there. That causes many problems when trying to preserve stuff.

The Chair: Well done. Thank you so much.

Next we'll hear from Dr. Reeves. You have up to 10 minutes.

Dr. François Reeves (Interventional Cardiologist, Faculty of Medicine, Associate Professor of Medicine, Université de Montréal, As an Individual): Thank you very much for this privilege and for being invited to this committee. For the sake of time, since we have 10 minutes, I'll do my presentation in French. It's really a matter of fluency.

[*Translation*]

I am an interventional cardiologist. I was head of the cardiac catheterization laboratories at the Notre-Dame hospital, at the Centre Hospitalier de l'Université de Montréal, and at the Cité-de-la-Santé. I created 42 research protocols. I am an associate professor of medicine and I've had students. So regarding a university career in interventional cardiology,

[*English*]

I mean, to implant stents to dilate arteries,

[*Translation*]

that is my life.

Five years ago, I wrote a scientific popularization book called *Prévenir l'infarctus ou y survivre*. This book led me to read documentation that an interventional cardiologist wouldn't normally read, whether on public health or environmental health.

Obviously, when people have a heart attack, they always ask why it happened to them. That has been the case for a long time. That is what is shown here. Why do we have heart disease or atherosclerotic heart disease? The Framingham study, which began in the United States in 1948 and is still ongoing today, has shown us the following.

● (1615)

[*English*]

The main risk factors are tobacco, heredity, diabetes, high cholesterol, high blood pressure, sedentariness, obesity, and stress. With the recent literature, we may ask, did Framingham say everything about this situation?

There are a few facts that I want to mention. This was the beginning of my research five years ago, and actually I'm planning to establish a chair of environmental cardiology at Montreal University, and it is going forward.

Heart disease is rare in animals. Heart disease was rare in humanity before the industrial era. Just ask the anthropologists: there are many studies about that. Heart disease is rare in humanity living outside the industrialized world.

However, you may induce heart disease in animals and they are, in fact, a very good bench test for all of our devices: pacemakers, medications, heart valves, etc.. You always see a dramatic increase of cardiac morbidity following a traditional industrial revolution.

[*Translation*]

For the book *Planète Coeur*, which I brought, I obtained the numbers from Statistics Canada. I know we have to submit documents in both languages, but for those who are interested, I would like to specify that the 500 studies that I will summarize here in 10 minutes are condensed in *Planète Coeur*. The book was published by Éditions du CHU Sainte-Justine. I brought copies. It is in French, but an agreement was signed to have it published in English and it is currently being translated. I know I'm departing from the rules by not submitting the documents right now in French and in English, but for those who are interested, the French version is available immediately and the English version will be within a year.

From a historical point of view, at the turn of the century in Canada, cardiovascular mortality was low. It was the same in the United States. It peaked in 1950, exactly at the same time as in the United States. Then, what was called an American epidemic happened. During that period, one in three Americans had an acute heart attack at age 50.

[*English*]

That was the main reason Americans carried out the Framingham study: because one American out of three was having a heart attack by the age of 50. Looking at the people here, you see the number it represents. What we see also is a huge difference between many countries.

[*Translation*]

On this slide from the World Health Organization, we can see the cardiovascular mortality rates in Europe. They vary between 60 and 700 per 100,000 people. Let's take the case of the main countries: Switzerland, Austria, Poland and Russia. In Switzerland and France, the cardiovascular mortality rate is 60 per 100,000 people. In Ukraine or Russia, that rate is multiplied by 10. We are therefore talking about a 1,000% difference in cardiovascular mortality, which is huge in medicine. It is one more indication that allows us to see that it is not just classic risk factors that determine these differences.

On the planet, some groups live outside the industrial world. For example, there are the Tsimanes, who live near the Amazon in Bolivia. Well into old age, they have practically no atherosclerotic heart disease. It appears that cardiology is an environmental specialty. That is what we deduced four or five years ago. Based on the time and place where you live, your risk of having an acute heart attack varies.

[*English*]

It's the same for stroke. It's the same disease. It's a vascular disease. Your risk of having a stroke or a heart attack is totally different according to the place you live.

[*Translation*]

Let's go straight to the conclusion. If we're talking about a cardio-protective city, what would be the environmental prescriptions of an expert in environmental cardiology?

First, we would need to eradicate food nano-aggressors.

Second, we would need to eradicate airborne nano-aggressors.

Third, we would need to eradicate fossil fuels, reconnect with nature through renewable energies, and achieve a 25% urban canopy, that is to say tree coverage in urban areas.

We therefore need to redefine atherosclerosis, the main cause of heart disease, by three triads: what we are, that is cholesterol, hypertension and diabetes; what we do, that is sedentarity, obesity and tobacco; and where we are, that is environment, food and urbanism. That last triad is important. Yet, it was completely underestimated until 10 or 20 years ago, and I will talk mainly about that.

To properly understand the importance of interaction with the environment, we need to know the following. In one day, I eat 1 kg of food, I drink the equivalent of 2 kg and I breathe in 20,000 litres of air. That means 20 kg of air go through our lungs every day. There is a constant exchange. You know the brain cannot go without oxygen for more than five seconds, otherwise you lose consciousness immediately. It is these exchanges with the environment that have been underestimated until now.

Let's see what we would need for a city to be cardio-protective. I will give you a cardiologist's point of view.

In a city, what is good and what isn't? Food nano-aggressors need to be eradicated, because I think they are part of the environment. In fact, the bread you eat is not the same as the bread eaten in Japan or France. Without getting into food too much, I would say three things are important: trans fats must be avoided at all costs, excess salt must be diminished and regulated, and finally, industrial sugars must be eliminated, i.e. glucose-fructose syrup. If Canadians eliminate excess salt, trans fats and glucose-fructose syrup, their risks decrease a lot. The numbers are significant: we are talking about a 50% lower diabetes risk and cardiometabolic risk. I believe industrial food, as it is served, is part of the environment.

Next, airborne nano-aggressors and fossil fuels need to be eradicated. The history of humanity teaches us many lessons. Think of the Great London Smog in December 1952. It shows us that every time pollution peaks, the mortality rate skyrockets. In three days, the Great London Smog alone caused 12,000 deaths. It was in 1952.

More recently, pollutant rates have continued to be measured and links have been made between them and cardiovascular mortality rates. In fact, when we look at this slide—which was presented in *Circulation*, one of our bibles—we see that it was enough to have the day's pollution rate to predict the mortality rate. In fact, we are increasingly realizing that they are directly related.

It is due to fossil fuels and fine particles. Every time we burn fuel oil, oil, coal or any fossil fuel, particles are emitted into the air. We breathe those fumes, which have two properties. That is why we call them ultrafine or fine dust: the particulates are so fine that they make their way directly from people's lungs into their arteries. Moreover, they are so toxic that they trigger an enzymatic cascade of inflammation and lead to thrombosis and arrhythmia, and then heart attacks, strokes and sudden deaths.

I will give you a very simple example from one of the studies reviewed. Groups of rats were fed a normal diet and others were fed a high-fat diet. The rats' aortas were sacrificed. The aorta is in blue. The red part in the middle is the atherosclerosis. That is what blocks arteries, which we unblock everyday with our teams using bypass grafts, especially. We see that a rat with a high-fat diet has a larger atherosclerosis section than a rat with a normal diet. No one is surprised. However, there is one interesting thing in these experiments by Valentin Fuster, done at Mount Sinai Hospital in New York. Valentin Fuster is one of the biggest stars in fundamental cardiology. With polluted air, this effect is amplified. Consequently, eating junk food in a polluted downtown area causes major sections of atherosclerosis, which leads to strokes and heart attacks.

Many studies have identified the links. We see that every time there is an increase of 10 micrograms per m^3 of particles emitted by fossil fuels, there is a 10% to 25% increase in heart attacks and sudden deaths.

This is a brief summary of the studies on this topic. It has been studied a lot from a mechanistic and physiological perspective. It is now a branch of physiology that could be called ecophysiology, the cardiovascular influence of air pollution on our environment.

● (1620)

We wondered if it was that important compared with other factors. Yes, it is an important cardiovascular factor. In 2008, information was published in Canada revealing that pollution caused 20,000 excess deaths, 5,000 to 11,000 cardiovascular deaths, 33,000 to 67,000 cardiac hospitalizations, 1.5 million hospital days, at a cost of $9.1 billion. These are excess deaths, following pollution peaks. It goes beyond chronic pollution, which is an environment that is always polluted.

Reconnecting with nature, using renewable energy as an alternative and achieving a 25% urban canopy, would that have advantages? In the United States, a very large-scale study that was published in the *New England Journal of Medicine* demonstrated that for 500,000 Americans followed over 14 years, decreasing the fine particle rate improved life expectancy. There are even neighbourhoods where life expectancy increased by four or five years because pollutants had been reduced. This is a rock-solid study: 500,000 patients were followed.

I will now say a few words about urban heat islands and revegetation.

In Quebec, studies were conducted with the help of the Canadian Space Agency and images from the RADARSAT and Landsat 5 satellites. They documented very high ground temperatures, in this case urban heat islands. I think the most important thing to understand is that not only do urban heat islands appear where there are no trees, but also that the rise in temperature increases the toxicity of pollutants. A study on this subject was conducted in Atlanta and New York.

A great study was published in *The Lancet*. This British study, which had 40 million subjects, showed the link between living in a green area and cardiovascular health. It can be summarized as follows: if you live in a green area rather than in a mineralized, polluted area, you cut in half the difference in mortality that exists between the rich and the poor.

If a city eliminates food nano-aggressors, i.e. trans fats, excess salt, glucose-fructose and phosphoric acid, as well as airborne nano-aggressors like carbon monoxide, sulfur dioxide, nitrogen dioxide, fine particles, ultrafine particles and volatile organic compounds, and it becomes a green and active environment, with a 20% to 25% canopy, it can expect a 25% to 75% reduction in cardiovascular diseases. Obviously, it won't be the same in Lyon as in Beijing.

Salim Yusuf, one of my eminent colleagues from McMaster University, said that heart disease was rare in 1830, but he wondered if it could become rare once again in 2050. It is a challenge we all face.

Those were, in 10 minutes, my thoughts on the links between the environment and heart health. They are much more significant than I thought at the beginning of my practice. It was a pleasure to talk about them to this committee.

Thank you.

● (1625)

[*English*]

The Chair: Thank you.

Next we have Mr. Maciver, from the Rideau Valley Conservation Authority. You have 10 minutes.

Mr. Don Maciver (Director of Planning, Rideau Valley Conservation Authority): Thank you.

Thank you for having me. I have a lot to say, and my wife felt I should write it down to keep it short.

My name is Donald Maciver. I'm the director of planning at the Rideau Valley Conservation Authority, which is right here in Ottawa. By training, experience, and accreditation, I'm a professional planner, and I've been with the conservation authority for 35 years.

The Rideau Valley Conservation Authority is one of Ontario's 36 conservation authorities. Conservation authorities are pretty well unique to Ontario, although there is a similar construct in a couple of instances in Saskatchewan, I understand. Legislation enabling the creation of conservation authorities in Ontario came into effect around 1946. Part of the idea was to put the boys coming back from the war to work, not anticipating the post-war industrial boom.

There were three fundamental principles in forming these bodies: people living closest to the problems were best equipped to identify and resolve environmental problems; the watershed jurisdiction was preferred, as it transcended municipal boundaries; and at the time, and for a considerable period of time following that, the sharing of cost between the province and the local communities was a principle.

Following the devastation in southern Ontario that occurred because of Hurricane Hazel—81 lives were lost, and in today's dollars, about a billion dollars' worth of damage was done—the Ontario government made a policy decision that water quantity control should be done on a watershed basis as well, and conservation authorities really took off after that point in time. While the concept dates back to 1946, the Rideau Valley Conservation Authority, for instance, wasn't formed until 1966.

Conservation authorities conserve natural resources for everyone's benefit. In the City of Ottawa we're one of three conservation authorities that conduct business within the political boundaries of Ottawa, with the Rideau being the one with the largest population. Some of you will be aware that the Rideau is a designated Canadian heritage river, in recognition of its outstanding historical and recreational values, but it is also inscribed as a UNESCO world heritage site, so it's quite an asset to our community.

In my brief, I've described some of the nuts and bolts of what we do, but I'll just hit the topics in this commentary here.

We're responsible for flood warning and for flood information, and for monitoring related to drought response, so you probably heard our name if you were around this summer. We provide science-based planning advice to municipal approval authorities associated with their own development approval job. We regulate development on hazard lands. We protect fish habitat. We do water quality monitoring. We're responsible for watershed-based drinking water source protection. We do watershed and sub-watershed planning. We have quite a large stewardship services program—planting trees, correcting erosion, fixing wells, fixing septic systems, that type of thing—and we own over 2,300 hectares of land for the public enjoyment.

Today, however, I want to talk to you more particularly about looking forward and about making plans. Our member municipalities have come to see the river system as an economic asset to be valued and integrated into their long-range development plans, but I think as far as individuals are concerned we have a battle to wage here, because the challenge may be to reconnect people with the environment rather than to connect them—to ensure the population at large understands their connection to the landscape and the environment as well as the consequences of these connections.

I like to say that in the recent past, Canadians lived off the land; now many of them just live on the land. Rapid and uncontrolled development is transforming urban areas.

Most of you will be aware that we have in excess of 7 billion people on the planet. In Ontario our population is expected to grow by more than 32% by 2036, and that will push the GTA's share of the population in Ontario to over 50%. In this area, in Ottawa, by 2031, we're expected to grow by 30%, and what that's going to mean is that we're going to need another 145,000 homes by 2031. That's going to cover a lot of the landscape.

Comprehensive planning is required to address such growth pressure, and this is where the opportunity of urban conservation comes in. Urban conservation, from my understanding, has been a construct that until recently has dealt with the built environment, with buildings, with architecture, with circulation routes, that type of thing, but more recently, UNESCO has been looking at the meaning of it, and my understanding is that now they also recommend that it take into account the natural environment that cities are involved in.

● (1630)

You asked what best practices are. As conservation authorities, we believe a best practice is a concept called integrated watershed management. Integrated watershed management presents an opportunity for effectively ensuring that topography, geomorphology, and natural features and systems on and under the land are protected and that the resilience necessary to address climate change and other realities is integrated into future plans.

Integrated watershed management is increasingly being adopted in Canadian and international jurisdictions as a fundamental way for managing water resources. The Canadian Council of Ministers of the Environment incorporated IWM into a report they did, called “Strategic Directions for Water”. Many provinces are incorporating IWM into their water management strategies, including Ontario.

Integrated watershed management is the process of managing human activities and natural resources on a watershed basis, taking into account or recognizing that there are also social and economic issues that have to be dealt with together with the environment, and it incorporates community interests in order to manage water resources sustainably.

It's an evolving and continuous process through which decisions are made for the sustainable use, development, restoration, and protection of ecosystem features, functions, and linkages. IWM allows us to address multiple issues and objectives and enables us to plan within a very complex and uncertain environment. This approach allows us to protect important water resources while at the same time addressing critical issues such as the current and future impacts of rapid growth and climate change.

To add to this, we have to recognize the changing landscape in Ontario. There are 36 conservation authorities in Ontario right now, and they're limited to only 10% of the geography. Conservation authorities affect roughly 12 million people in the province—that's 90% of the population—and in addition to that, we also have to recognize that there are other things happening on the land, like agriculture.

We believe that this approach will help support one of the province's leading industries, which contributes more than $33 billion to the economy every year. The importance of agriculture, coupled with the rapid rate of urban development, creates significant pressures on Ontario's environment and seriously challenges the health and security of our future water and land resources, which are critical to the environment, to the economy, and most importantly to the health of Ontario residents, as we just learned from the doctor.

There is no denial that threats to Ontario's water and land resources, such as urbanization and climate change, are significant and growing larger. Managing impacts is a key in ensuring a sustainable economy and sustainable resources. Keeping water clean requires maintaining a healthy land resource so as to protect water quality and quantity. All society benefits.

It is preferable to do it this way, in an organized way, and to anticipate problems rather than to have to react to them. Here in Ottawa right now, the city is embarking on a $250 million dollar plan. It's called the Ottawa River action plan, and it is aimed at improving the quality of water discharges to the Ottawa River.

Any of you familiar with the local media know that there have been some horror stories over the last five years. In doing this, the city is adopting a watershed approach to implementation of the plan to ensure that the full range of pollutant sources and impacts are addressed. It's not just the Ottawa River, but also all the water sources that flow into it, one of which is the Rideau.

I would like to highlight as a best practice our watershed report card initiative, which I have here, although unfortunately it is not bilingual. It clearly and graphically provides a report for residents on watershed health. The RVCA has completed watershed report cards for the middle Rideau, the Tay River, and the Jock River in southwest Ottawa. A similar report is being prepared for the lower Rideau, the part that flows through the city. It will be available next year and will be in both of our official languages.

With this information, decisions regarding future development can be supported with current and scientifically valid knowledge. Stewardship programs can also target areas of concern, resulting in cost-effective improvements on the ground geared to improving land and water health in partnership with the community.

A key tool in how we determine health from a land cover or ecosystem health perspective is based on thresholds established in an Environment Canada publication called “How Much Habitat is Enough?”. The environmental thresholds described in this thing are based on that Environment Canada publication.

Other useful aquatic habitat approaches we utilize come from Fisheries and Oceans Canada, with whom we have a formal relationship, as well as the Ontario Ministry of Natural Resources. We believe this is a tool to ensure people understand their connection to the landscape and to the environment, as well as the consequences of these connections.

● (1635)

It takes the scale down to a level at which people can understand what is happening where they actually live, so they can understand the impacts of what they do on the environment.

In closing, I was asked what the role of the federal government should be in urban conservation. I was asked what I want from the federal government.

I was a little taken aback with that. I can't say I really want anything. The reality is that our day-to-day interaction with the federal government in this area is quite limited, in spite of having a federal waterway that runs down the spine of our watershed. What I would like to see is for this relationship to change and for the Government of Canada to become a leader in urban conservation.

Particularly, we would like to see recognition that the watershed uniquely serves as a rational scale for this perspective.

Decision-makers must be equipped with facts and tools to deal with ecological services, public health, and social benefits. Continued use of science is essential. The brief has reference documents we use routinely, developed by the federal government, and we would hope that these documents would continue to be made available and kept current.

In past years, the federal government has had many grant programs aimed at reducing energy use in homes and buildings; for larger infrastructure projects, the federal government could ask that a conservation plan be available to support those types of grant programs.

Finally, adoption of an integrated watershed management approach to managing water and resources could be a keystone not only for urban conservation but also for a reinvigorated federal water policy. Application of urban conservation practices, including the use of an integrated watershed management approach, will, we believe, lead to the creation of healthy, sustainable communities. We also believe that as conservation authorities, we are more than able to be a partner in these practices.

I thank you for your time. It's been a pleasure.

The Chair: Thank you very much.

We'll begin with Mr. Sopuck.

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

Dr. Reeves, I'm intensely interested in what you had to say. You made some comments about urbanism. I look with unease at the urban intensification around the world and wonder if that's actually good for us, given that it's not our nature, as a species, to live that way.

In your view, does urban intensification have negative human health consequences?

● (1640)

[*Translation*]

Dr. François Reeves: Of course, it depends on the way it is done. We have all travelled. In medicine, we have the opportunity to go to conferences around the world.

[*English*]

I've made this presentation in Beijing, New Delhi, Los Angeles, and Geneva. I can tell you that you have some examples that are beauties, especially in Switzerland, which might be a good model for how to build the future of our cities in Canada while avoiding other bad examples.

For sure, the pressure is high, and I think you mentioned that so well. We are 7 billion people—that's a fact. We can attenuate and have a long-term vision of what type of city we want. Where do you want to live? What are your preferences? Do you have facts? Do you have evidence? Do you have good science behind that? That's the reason I've picked all those. It's nothing compared with what we have on the environment. It's not just one science that can handle that.

I think we have a lot of good examples all around the world, especially in Germany, France, Spain, and many places in the States. I think in the States we have the world's best drop in emissions from fossil fuels. There are many good examples.

Mr. Robert Sopuck: I was really interested in your map of the United States and your comment that as air quality improved in light of technological improvements, we saw an increase in human health indices.

In Canada our record in reducing SO_2 and NO_2 has been pretty good, but you talked about the ultrafine particles. Are we able to eliminate those, or reduce them? Have we tackled those sufficiently yet?

Dr. François Reeves: We haven't, not that much.

What you mention is very interesting. If we compare the rates of SO_2 and NO_2 and fine particles in Montreal—I know this region quite well—we see that from the seventies up to now, there's been a dramatic drop of SO_2 and NO_2. What were we breathing in the seventies? It's incredible. Now it's better.

However, we have an average of about 15 micrograms of fine particles per cubic metre. The average is 15 micrograms, which is not that good. If you look at downtown Montreal, only one day out of three is considered “good”. Two-thirds of the days are “good enough”, and 60 a year are “bad”.

Very recently, a study from Boston's Harvard University said that when you go from a “good” day in terms of pollution to a “good enough” day, which is an average, you increase the rate of strokes in the city of Boston by 25% to 40%. Boston and Montreal have a lot of similarities there.

So it's not good enough. We should continue with those studies, because it's a way to have better health globally.

I love to implant stents, to save lives, to put in valves. It's fun, but honestly I would say to the people around me, “Don't need me.” I wasn't at all aware of the environment as a measurable part five years ago, I can tell you, but now the science is there, and we can have this conviction. It's the same as for physical activity and smoking: the environment is as important as that.

Mr. Robert Sopuck: I was pretty interested in the paper you handed out along with your PowerPoint about the Japanese concept of forest bathing. I'm interested in the relationship between time spent in nature and human health outcomes.

Has any quantitative work been done on this relationship?

Dr. François Reeves: It's very good that you point that out.

I mentioned to you that we breathe about 20 kilograms of air a day. That's huge. That's enormous. The exchange of gases is especially fast, faster than that of solids and liquids, for sure.

Since 1982 the Japanese government has considered tree-bathing —it's called *shinrin-yoku*—a health activity. The Japanese measure blood pressure, heart rate, heart variation, the immune system, and finally the stress system very precisely, especially by dosing the cortisol in the blood.

For all those parameters, while you're in the green milieu, compared with the same people in the urban milieu, you have a very significant drop in blood pressure, comparable to a very good anti-hypertensive drug, simply by being among trees. Afterwards, they found out that trees emit a lot of what I'll call “tree proteins”. That's been known by botanists for years, but now we see they have a direct impact on man.

It's easy to understand. For example, tobacco is a plant. You smoke it; you have effects. Cocaine is a plant; when you smoke it, sniff it, or whatever, you have effects. It is deleterious, and it's the same for opium, etc. You have the direct influence of plants by air.

● (1645)

[*Translation*]

They are deadly or harmful.

[*English*]

However, we can have positive activity directly on various parts of our system, of our anatomy.

[*Translation*]

I'm thinking especially of our central nervous system, our cardiac system and our immune system.

[*English*]

Mr. Robert Sopuck: Thank you very much. It was most interesting.

The Chair: Mr. Pilon, you have seven minutes.

[*Translation*]

Mr. François Pilon (Laval—Les Îles, NDP): Thank you, Mr. Chair.

Thank you to the witnesses for their presentations. It was very interesting. We have a real variety of witnesses today.

I will put a question to Mr. Reeves.

You covered a subject that we practically haven't addressed until now, or even not at all, the effects of the environment on health.

Can you indicate to us how, in your opinion, an effective urban conservation plan could solve this problem?

Dr. François Reeves: In fact, my second-last slide addressed that.

First, I am convinced of the importance of a city's influence on our quality of life. In Canada, as in most countries, we have three levels of government: municipal, provincial and federal. I believe the municipal world influences our way of life the most. In fact, in one city, the disease and mortality rates can be completely different from one neighbourhood to another based on the environment. If laws, regulations or practices are changed in those areas, everything changes.

Why does a Swiss person in Geneva have one tenth of the heart disease risk of a Russian person in Moscow? If you bring a one-day-old Russian baby to Geneva and you bring a one-day-old Swiss baby to Moscow, the statistics will be the opposite. Many studies in the world show that if twins live in different environments, the environment will have more influence than genetics. Okinawa, in Japan, is a city famous for its 100-year-old residents. People live well into old age; many of them live 100 years. The descendants of the residents of Okinawa who emigrated to Hawaii experienced a decrease in their life expectancy and an increase in their cardiovascular mortality rate. The descendants of the residents of Okinawa who went to Los Angeles had the same rates as Americans.

Consequently, the environment has a huge influence, even for people who have the same genes. I think that, locally, it's what influences us directly. In nice cities like Portland, or some cities in Germany whose names I forget, efforts have been made. These effects are measured directly.

The three levels of government must act consistently if we want a better quality of life in cities. In fact, we want to spend less on health care. Excess morbidity due to pollution costs us $9 billion a year. That is an impressive number. We need to start thinking about that.

I'll say again that in 1830, heart diseases were rare. We caused them. Now, we need to reflect on this. We don't want to lose our quality of life, our means, our energy, our comfort or anything else, but we can be more efficient. We can do it that way. We can say we're fortunate to live in Canada, because we have everything. It's a matter of balancing choices. We need to look to the future with this in mind.

I'll come back to eradicating food nano-aggressors. It's legislation that, in many ways, concerns the federal government. There are airborne nano-aggressors, those we emit and those we regulate. Finally, there are green environments. In an environment with many trees, as was mentioned, there is a real decrease in the cardiovascular mortality rate and, especially, a reduction in the gap between the rich and the poor. That is what struck me most. I don't know of any medication that decreases socioeconomic inequalities for diseases as much as a green environment. In my opinion, the study published in *The Lancet* by Richard Mitchell from the University of Glasgow is very important, because it has 40 million subjects.

That about summarizes my response to that subject.

● (1650)

Mr. François Pilon: We are also told that investing in green energy or green projects is not worthwhile, as these things are expensive and do not make any money.

And yet, we know that investing in green energy usually leads to the creation of three jobs, whereas investing this same amount in conventional energy leads to the creation of only one job. Do you think that we would see the same type of benefits and the same consequences, namely fewer health problems and therefore more money for the Canadian government, were we to invest in green energy instead of fossil fuel energy, as we are currently doing?

Dr. François Reeves: I sincerely believe that this would be the case. That is why I talked about conversion. We certainly do not want to breathe in sulfur dioxide or nitrogen dioxide, volatile organic compounds and polycyclic aromatic hydrocarbons. A recent study conducted in Montreal demonstrated that there was a higher breast cancer rate found around polluted roadways because breast cancer is one of those cancers triggered by polycyclic aromatic hydrocarbons, or PAHs. Women living near polluted roadways are more likely to develop breast cancer than those who live 200 metres further away. This was a joint study done by McGill University and the Université de Montréal.

Similarly, people living alongside highways and polluted roadways are more likely to suffer a heart attack or stroke.

By removing the problem, you reduce these diseases significantly. Making the switch to green energy is a question of sustainability, and I will let the environmentalists debate that issue. However, from our point of view, it is clear that if you live in a place with clean air, you use only green energy as your source of energy and you halt the deviant behaviour of our industrial world — something I refer to as *General Bouffe* — which has perverted the intrinsic quality of our food, you will see the rate of coronary heart disease drop off to the levels we saw in the 1800s. Yes, there were heart attacks in 1800, but they occurred only rarely.

[*English*]

The Chair: You have 45 seconds.

[*Translation*]

Mr. François Pilon: I know that you are not an environmentalist, but do you feel that the government could have other reasons, aside from health benefits, for switching to green energy?

Dr. François Reeves: There are many reasons to do this. There is, in particular, the pressure of climate change. Look what happened recently with Hurricane Sandy. I pay a great deal of attention to what the Intergovernmental Panel on Climate Change has to say. Every time that the IPCC presents its scenarios, what actually happens is always worse than the worst- case scenario presented by the IPCC. The IPCC has been talking about this issue for 20 years. We should start listening to these scientists.

As a citizen and as a doctor, events like Hurricane Sandy concern me. The hurricanes are coming up as far as New Brunswick. In Montreal, we are witnessing downpours resulting from hurricanes in Florida. We never used to see that.

I think that the consequences are significant. Climate change really is not happening just in our minds. It is going to really cost a great deal of money. In 2008, Nicholas Stern, an economist with the World Bank, said that if we continued in the same direction, if we did not change the trajectory, with the same increase, we would see, at a minimum, a cost of $6,500 billion in damages. I think that these are good incentives.

[*English*]

The Chair: Thank you. The time has expired.

Ms. Rempel, you have seven minutes.

Ms. Michelle Rempel (Calgary Centre-North, CPC): Thank you, Mr. Chair.

Thank you to all the witnesses for coming today.

I'd like to start with some questions for Mr. Ricketts.

Your community garden is actually in part of my riding of Calgary Centre-North. It's in one of the more dense urban parts of the city of Calgary, which is called Bridgeland. When I first found out about your project, it was interesting, because there is a lot of interest in urban gardening and food production in Calgary.

Something I wanted you to expand upon is the impact of the garden on the community. When I first spoke to you, you highlighted some impacts the garden has had on the seniors in the area, as well as some of the youth in the surrounding apartment complexes and whatnot—special needs youth, as well.

Could you talk about that a bit, in the context of why urban conservation is so important?

● (1655)

Mr. Michael Ricketts: One of the very interesting benefits of the garden has to do with the fact that so many young people have no idea where vegetables come from. They come by the garden, and we try to get them involved.

There's a science school that is just on top of the hill right behind us, and they have started bringing the students down. They spent a couple of years, because they had a champion at the school who was interested in the gardening, so they spent as much time as they could. Unfortunately, in school in Calgary, because it's based on an agricultural system, when you come down in May and June there's nothing happening other than the land having been prepared and seeded. Then the students come back after the summer and they get to see the harvesting.

In most places in Calgary, you have about a four-month gardening period, so whatever you can do, you do, but it did inspire the school to incorporate their own program. They've built a garden plot at the school and they're now gardening there, so the students are getting a very good first-hand awareness of what gardening is all about.

It's a great way to get the seniors involved. In fact, the reason I got involved is I'm the young kid in the garden. Marsh, for example, has been there for 80 years gardening, and fitness-wise, I'd put him up against even the doctor here, or anybody in this room. He is fantastically fit because he's living in that garden and he's working hard. It has given him a purpose, something to do, and that's why I'd like to get community gardens going for the seniors in our neighbourhood.

If you know Calgary.... Actually, I have a picture. I brought a map in case anybody wanted to see where the garden is and I have a Calgary heritage calendar that shows the garden to give you an idea of what we're talking about. They're not bilingual, but I have them in my briefcase if anyone wants to see them later.

It took me two and a half years of fighting with the city to try to protect it, and we finally got protection because we got it turned into a heritage site. I went on a speaking trail for 18 months trying to convince people that it was a community garden, and I found out as soon as I got the heritage site designation that it couldn't be a community garden, because a community garden typically is an eight-by-four plot with a hundred people in there, and we couldn't do that. That's why we have to get another place going, but what I did on the speaking trail was challenge other people to get the city involved to help them get community gardens going in the city.

I was trying to save the Bridgeland-Riverside garden. The alderman said, “Well, there are already seven community gardens in the city. We don't need any more.” Now, five years later, there are over 130 community garden initiatives in the city of Calgary. They have really taken off.

The timing was good. It was very propitious that I was doing it just as there started to be a lot of focus on the benefits of community gardens, so that's a whole other issue there.

I was trying to talk about the push-back I was facing in trying to get this saved and about how we could get past that.

One thing that happens in the city is that when a new house is built, people want to maximize their footprint on the land, so they chop down all the old trees and they plant these new trees that are never going to get back to giving the benefits that you have in the other cities. Calgary is very rapidly losing its tree growth in the communities, I think. I moved out of one of the older, well-established, very wealthy neighbourhoods in Calgary to come to Bridgeland-Riverside, because in the older wealthy places, with all this new oil money there are no trees left, because they wanted to have big houses there. I didn't want to live in a place like that.

There are a lot of very intangible benefits and some tangible benefits as well, as we've discussed today. A lot of them are intangible. I could go on for two hours on that, but I won't.

● (1700)

Ms. Michelle Rempel: You made a comment earlier that I think was tongue-in-cheek, but we've actually heard a lot about it from other witnesses. You said kids didn't know where the vegetables came from, right?

What we've been trying to tease out of witnesses as part of this study is the need to develop a nature ethic, an understanding of the value of nature in urban Canadian children. How do you think that community garden initiatives can help support that goal?

Mr. Michael Ricketts: Again, I have this wonderful calendar, if you would like a copy. When the calendar came out, they phoned and asked us if we would like to go into the heritage calendar, simply to show that it was a huge initiative for Calgary to all of a sudden start accepting land as heritage sites. Before that it was only buildings.

They did a print run of the calendar of 460,000, one for every residence in Calgary. When they were done, I asked if I could get a couple for my friends. They said they had some left over. I asked what they were doing with them and they said they were going to recycle them; they were good that way.

I offered to take them if they didn't mind. I asked how many they had left over and they said they had 76 boxes, which turned out to be 10,000 calendars. Try to find 10,000 of your best friends to give a calendar to.

I went to all of the inner city schools and offered one calendar for every student in the elementary grades, up to grade 6. By doing that, we could get their interest in the garden and get them aware of it, and also in heritage in general. This is where you want to get young people interested, so that was a spinoff benefit that we achieved.

The Chair: Thank you. Your time has expired.

Madame St-Denis, welcome to the environment committee. You have seven minutes.

[*Translation*]

Ms. Lise St-Denis (Saint-Maurice—Champlain, Lib.): Thank you, Mr. Chair.

Thank you for your explanations, Dr. Reeves.

You have come here to meet with us, you have knowledge and a specialization, and you know what needs to be done. In some aspects, you represent science. And then there is the government, which has listened to you and which is probably just as convinced as you are about the nature of the problems. However, it does have some concerns that are a little bit more difficult; namely, the matter of costs.

Has academia, for example, thought about how it could go about convincing governments? We are at the federal level. You were alluding to legislation that we could adopt and which would be effective.

In your sector, you have a great deal of knowledge; how can you find a way to convince a government that it needs to pass legislation because it is more important than something else or should be given greater priority? Have you any ways to do this? Do you do any lobbying or are there any meetings with small groups? You are appearing before a committee, and that is already something. Nevertheless, do you go any further in trying to convince a government level what needs to be done? In just about every area where there are problems, people are aware of them. What is difficult is determining how to resolve them and finding the money to do so. Have you given any thought to this issue?

Dr. François Reeves: You have asked a very relevant question.

First of all, this is primarily an issue of knowledge. Although I am a cardiologist and a professor of medicine, five years ago I hardly knew anything about these things that I have presented. And yet, the science was there. You could say that the circle of environmentalists — I'm not talking about activists, but rather the scientists, the botanists and the climatologists — do science in a bit of a bubble. The scientific world is enormous. Indeed, 17,000 scientific articles are written daily. Just keeping abreast of your own specialty is a challenge. And yet, you find out about all kinds of extremely interesting things once you step out of your comfort zone.

I gave this presentation at Ouranos, the big climatology centre in Montreal. The people were so excited. They said that this was the first time that a doctor had spoken about this concern. To answer your question, Madam, I think that we need to have some places where these scientific walls are broken down. Moreover, your committee is an excellent forum for doing this in order to share this type of knowledge.

I am not lobbying; I'm a professor, a scientist and a doctor. When I talk to people, I address them as though I were talking to my patients, but sometimes I am talking to an audience of 30 or 300. I sometimes prefer to talk to people on an individual basis. However, I always use the same language. There are numerous political issues: the left and the right, the rich and the poor, you can list them, but I feel that the environmental issue is always, first and foremost, a question of health. For me, it is as simple as that.

Perhaps my perspective has been skewed by my professional training, but I literally look at the world through the eyes of the heart. I cannot help but always wonder whether something is good or bad for the heart. We have to bring together all of this expertise from all of the other scientists, put the puzzle pieces together to finally come up with an overall view.

We can then see that all of this can be avoided. The game plan becomes easy. We also have data showing that we will spend less money, we will spend less money on health care and we will have better insulation. There is some kind of monumental convergence taking place that shows that when you plant trees, you reduce the need for heating and air conditioning, you make the climate more temperate, purifying the water and purifying the atmosphere.

Not so long ago, I did not know that a tree was able to remove pollution at such an incredible rate, absorbing volatile organic compounds. Recently published data in *Science* and in *Nature* attest to this. Not only do they absorb CO_2, they also absorb toxins. Trees clean the air, they are very efficient air filters.

There are some things that we cannot do all at once. We have the current state of affairs, and we also have the objective we are hoping to achieve. Just as we want everyone to have health, an income and protection, we want things for the environment, the first thing being knowledge, I am convinced.

That is why I wrote a book. I give courses and I make presentations to various groups. When people are knowledgeable about things, they make demands. The politicians will have to take action if the people are asking them to do so. I know that the politicians in some cities were 10 years ahead of the general public, but these politicians were being kept back because people were not aware of the situation.

The whole issue of knowledge channels, dissemination and places like this one, namely where there is an interface for knowledge, is vital. These interfaces are fertile ground. Whether we are talking about water, the earth, the forest's edge, a shoal or a large bed, fertility is always the greatest in these interfaces. This has always been the case.

The same thing applies to human thought. We are particularly fertile in the interfaces. So I'm suggesting that we multiply this type of interaction with decision-makers, who have to make choices regarding many difficult issues and who have to sign the cheques at the end of the year. As far as I'm concerned, the only way to make advances is through knowledge.

● (1705)

Ms. Lise St-Denis: Thank you.

[*English*]

The Chair: Thank you. You have 20 seconds.

Ms. Lise St-Denis: Twenty seconds? It's too short.

The Chair: Thank you so much.

We'll begin our five-minute round. On these five-minute rounds, I'm going to have to cut people off. Keep it tight, because otherwise we won't have enough opportunities for questions.

We'll begin the five minutes with Ms. Leslie.

Ms. Megan Leslie (Halifax, NDP): Thank you, Mr. Chair, and thank you to the witnesses. I've learned quite a bit today.

Mr. Ricketts, I wanted to start with you. I'm from Halifax, and there's this gardener for HRM, the Halifax Regional Municipality, David McLearn, and he, unbeknownst to anyone, started replacing flowers with vegetables in the city gardens—sort of a guerrilla gardener—and then he'd harvest these vegetables and bring them to Hope Cottage, which is one of the soup kitchens.

He didn't get permission and he did it for a few years before anyone noticed. Now he is getting all kinds of awards for how innovative he has been, and the city holds him up as a hero. I'm sure if they had found out a couple years earlier they probably would have stopped it from happening.

I tell that story because I think it illustrates how government is often behind community when it comes to these innovative initiatives. I think about the fact that there is an opportunity here for the federal government to promote or support these kinds of initiatives.

I'm not asking a question here about creating new money for something like urban gardens, but when we have federal funding, can you think of ways that we could maybe innovatively consider federal funding so that it could support projects like this? For example, we have had some people at committee who discussed how changing the way the infrastructure money is granted and including urban conservation in infrastructure funding might help. Can you see ways that the federal government could help the work that you're doing in that way, using the funding that's available?

● (1710)

Mr. Michael Ricketts: We had a lot of success at the municipal level because we were right off the radar screen. Now it's grown to be very important. It's a major part of the parks area to have community gardens.

I gave this a lot of thought before I came today, and the thing that's bothering me most is the fact that at the municipal level there isn't the insight that you're gaining here today, where you can come up with policy that would help direct a lot of these things. I think if you do understand and pull this all together, then you can guide the municipal people. They get away from the problems that we experience, which are due in large part to the fact that development is driven by the developers and is very short term.

I see a great need for having a vision for where we should go. I would put a lot of money into trying to get that together so that we can educate people, because if you get something out there, the people, the citizens, will learn, and then they can drive it. Right now it's real grassroots fighting.

Ms. Megan Leslie: It seems as though maybe the best decisions are made at the ground level, but the federal government could be more creative in the way that it works with municipalities around this issue.

Mr. Michael Ricketts: Yes.

Ms. Megan Leslie: Okay. Thanks.

Mr. Maciver, I looked at your brief—thanks very much for distributing this—and I note that in your conclusion you talked about using documents from Environment Canada and Fisheries and Oceans. On page 3 of your brief you talk about the great relationship you've had with the Department of Fisheries and Oceans, how fish habitat protection programs are undertaken with a memorandum of understanding with DFO under section 35 of the FIsheries Act. You have gotten quite a bit of training, and it's been a model relationship.

Has the conservation authority put thought into how that relationship will change, now that fish habitat protection is no longer in this act?

Mr. Don Maciver: Not at all, because we have been told by DFO that it is business as usual until we are told otherwise. Until we know what the “otherwise” is, we are unable to decide how that is going to impact our programs.

Ms. Megan Leslie: Fair enough.

It's not so good to work with hypotheticals. Is there anything you are worried about for the future that we should keep an eye out for?

Mr. Don Maciver: I would be worried about a total loss of fish habitat protection. If that does happen, then we are looking at ways we could achieve the same objectives using our own legislation, but it's an uncertain landscape that we are working in.

Ms. Megan Leslie: Thanks. Fair enough.

The Chair: You have 10 seconds.

Ms. Megan Leslie: Mr. Reeves, on this idea of changing the way funding is allocated, when I heard your testimony, I thought a lot about how the Health Canada could actually be implicated. I'm out of time, but if you could answer later that would be great.

The Chair: Thank you.

My apologies. We have three more questioners and 15 minutes, so I have to keep it tight.

Ms. Ambler, you have five minutes.

Mrs. Stella Ambler (Mississauga South, CPC): Thank you, Mr. Chair, and thank you to all of you for being here today.

Dr. Reeves, taking into consideration that the government has a number of initiatives and programs to monitor clean air and airborne pollutants, such as the air quality management system, what do you see as the federal government's role in ensuring that urban Canadians have cleaner air?

● (1715)

Dr. François Reeves: First of all, you need good data.

I think you had something exceptional here last week. It was at the Canadian Space Agency, in order to develop a protocol with the geomaticians at the Université de Montréal,

[*Translation*]

the Université du Québec à Montréal

[*English*]

and McGill University and the engineers at the Space Agency to use their satellites, especially Landsat 5 and RADARSAT, to constantly monitor the rate of pollution on the ground and correlate it with what's going on with the ground sensors and finally with our database in cardiology, because I'm a cardiologist. I know people in oncology and cancer are doing the same.

Having funding to achieve good measurements, good data, is definitely a plus, and this is a federal issue since we're working with the Canadian Space Agency.

That's the first thing—

Mrs. Stella Ambler: I appreciate that. Thank you—

Dr. François Reeves: The second thing that I think the Canadian government should do is to match their rules to what's going on. Obama just implemented a new rule to decrease vehicle emissions; I don't know the exact numbers, but I think we should go that way.

Mrs. Stella Ambler: Sorry; you said, “decrease emissions of”...?

Dr. François Reeves: Of fossil fuels.

I can tell you something. I have two hybrid cars, one for me and one for my wife. It cost me, I think, $80,000 more to get those two hybrid cars, and I had no support for that. Why? If you go anywhere in Europe, you get support for that.

The only place you're welcome if you have a hybrid car is at IKEA, because there is private parking for every hybrid or electric car.

Mrs. Stella Ambler: Right.

My understanding is that we do have certain programs, and there are surcharges for cars that aren't environmentally friendly, but your suggestion is that we need them for the ones that are, rather than doing it in a punitive way.

Dr. François Reeves: The point is that if we really think about it, we should support people in that endeavour.

Also, if you want to transform something, it's difficult when it's the individual. I'm a doctor; it's easy for me to buy a hybrid, but for other people it's not that easy. Alternatively, you can have a lot of fleets, complete vehicle parks filled within the city by different levels of government.

When you buy a bunch electric cars, you drop all the prices, and in that way you insert them into society. I was astonished when I was in Zermatt in Switzerland, because in Zermatt not a single gas car goes in the city, only electric, and we can go through it—

Mrs. Stella Ambler: We have some unique challenges in Canada simply with regard to our size, and electric.... However, that's not really the road I want to go down.

So having good data and matching our programs with the U.S.—those would be your suggestions?

Dr. François Reeves: Those will be very good steps.

Mrs. Stella Ambler: That would be a good start. Okay, wonderful.

Mr. Maciver, do you know anything about the emerging practice called eco-landscaping? For example, an organization might plant a row of evergreen trees alongside a building in order to reduce the effects of wind chill, thus reducing the need for central heating and in turn reducing greenhouse gas emissions.

Could you please tell us what you know about eco-landscaping, and if you're aware of any best practices or recent developments in this field?

The Chair: You have 10 seconds.

Mr. Don Maciver: I've never heard of that term, but it sounds like a stewardship initiative. We have been involved in those as they relate to water.

The Chair: Thank you very much.

Doctor, I have also had two hybrids. I have found the new vehicles to be just as fuel-efficient as my hybrids, so hybrids are not the be-all. They're very good, but that technology is maybe not keeping up with what's out there. They keep our vehicles running very clean, absolutely. The newer vehicles are very clean, and with the ultimate goal of reducing emissions.

Mr. Brahmi is next.

● (1720)

[*Translation*]

Mr. Tarik Brahmi (Saint-Jean, NDP): Thank you, Mr. Chair.

I will let the professor answer the question asked by my colleague from Halifax. The question was, do you think it would be useful or desirable to use a part of Health Canada's funding to subsidize urban conservation?

Dr. François Reeves: I will draw a parallel with what was done in Quebec. The Ministry of Health granted tens of millions of dollars to the Climate Change Action Plan, or CCAP. If I remember correctly, the Institut national de santé publique received approximately $36 million for all of Quebec to regreen and counter urban heat islands that caused the most concern. Many projects were carried out throughout the province. We held our event Journée de l'Arbre de la santé at the same time as the National Tree Day. I was also happy to meet Mr. Royal Galipeau before coming here, because he was the MP who proposed having such a day.

In the last five years, we've been carrying out a major greening initiative in hospitals, health centres, residential and long-term care centres (CHSLD) and local community services centres (CLSC). We are currently working in the cities of Laval, Montreal, Quebec City and Trois-Rivières. The objective of this joint program with the Ministry of Health is to reduce climate aggressors for vulnerable individuals. This program focuses particularly on regreening areas where the poorest and oldest individuals live. This partnership is currently supporting joint activities between the health and environmental sectors. I believe that it's extremely important to have scientists from both of these fields working together.

What strikes me as a doctor, is that in the human body we can measure everything right down to the exact angstrom, picogram or nanometre. We have no problem measuring levels of HDL, LDL, glucose, blood pressure and so on, but we have no idea what's in the environment. This is quite strange given that the environment completely changes and influences our degree of risk.

Mr. Tarik Brahmi: Thank you, Professor. I would like to stop you there, because we have very little time. In addition, your answer to my first question was complete.

I was very impressed with the diagram you showed us. We could see the difference between rats on a normal diet and those on a fatty diet. The graphs are quite clear and really show the impact of air pollution on overall cardiovascular health.

One element you did not mention was reversibility. Once the human body has absorbed heavy metals, it cannot get rid of them. In terms of cardiovascular health, which means cholesterol and... Help me here, you're the specialist.

Dr. François Reeves: You mean atherosclerosis.

Mr. Tarik Brahmi: That's it. Have any studies been done to show whether adopting an urban conservation policy would lead to a reduction in the rate or reversibility of atherosclerosis in most people?

Dr. François Reeves: Yes, in the study I told you about that involved 500,000 Americans, we saw that life expectancy increased in all the cities where pollutant rates had been reduced. Life expectancy even increased by four to five years in entire neighbourhoods.

We can draw a parallel with tobacco. In the end, knowledge on this topic included knowledge on the environment. However, it was easy with tobacco. It was the first factor in Framingham. First, people either smoked or didn't. There was a clear line. Next, we could see how much they smoked: 5, 10, 25 cigarettes or three packs per day.

Measuring how many pollutants we are exposed to is a lot of work. It was a very complex undertaking. As soon as everyone started measuring, we got all of this new data. And it is very clear: what comes out of something that uses diesel is much more toxic than what comes out of a cigarette.

● (1725)

Mr. Tarik Brahmi: So the human body is able to recover. Perfect.

[*English*]

The Chair: Thank you very much.

Mr. Lunney, you have the last five minutes.

Mr. James Lunney (Nanaimo—Alberni, CPC): Thank you, Mr. Chair.

First, for the record, I would like to raise an objection to Ms. Leslie's allegation that we're somehow trashing habitat protection. I think your answer from DFO was that they said to you that it is more or less business as usual. The effective regulation is simply to target the waterways where the fish actually are and to have greater effect on the fish and the fisheries.

Now I want to say what a fascinating discussion we've been having today. I wanted to say, Dr. Reeves, that your passion for taking on nano-aggressors, both food and airborne, is very well articulated. We appreciate that. You fleshed that out a little bit. We are making progress with some of those noxious gases, as was mentioned by my colleague Bob, and as you acknowledged in Montreal. We have more to do, but we're making some progress in that area.

I appreciate what you said about trees being a filter and so on. I'm fortune to live on Vancouver Island. We're on 10 acres with forest all around us, and I sure miss it when I'm here in Ottawa in more of a concrete setting. I want to say there are some great areas in Ottawa, and I'm getting to that.

I just wanted to ask about breast cancer, Dr. Reeves, because we have you here. There's a lot of interest in that today. For example, a couple of major studies show that vitamin D deficiency has a major role in breast cancer risk reduction of up to 69%. Some people think we could save a heck of a lot of money if people got more vitamin D exposure. I'm wondering whether you think, as part of our urbanization, that we're actually spending more time indoors—we're clothed, we're not getting the exposure—and that the drastically low vitamin D levels that Canadians have is part of what contributes to the cardiovascular and respiratory diseases.

Dr. François Reeves: That is a nice question.

First, I'm a heart specialist, so I will answer to what I know. I'm really not an oncologist or a cancer specialist.

What I know is that all women have a risk of one out of seven to have breast cancer. At the beginning of the century it was one out of 20. In South America nowadays it's one out of 40.

First, how come my wife has a one out of seven risk of having breast cancer and if I were in Patagonia, this risk would drop by a factor of five or six?

Second, during all my training and during my 23 years of career practice, I've seen a lot of things about vitamin D. I say that within the reasonable limits suggested by the

[*Translation*]

Canada's Food Guide.

[*English*]

I don't remember the exact words in English—

A voice: It's the Canada Food Guide.

Dr. François Reeves: If you are within those reasonable limits of the Canadian Food Guide, that's okay, but on a general standpoint I think we do not spend enough time outside in our society. Everything that can bring us outside, especially nice streets, we'll get out. It's the same for our children, I can tell you.

Mr. James Lunney: Absolutely.

I wanted to pick up on that because Mr. Ricketts started talking about the gardener who is 90-plus years old. I just have to mention that for our colleagues across the way there. I know that a member of their caucus, Monsieur Genest, is a gardener, and if you mention gardening to him, his visage just lights up like the sun.

I know that getting kids to play outdoors is important. You mentioned some of the opportunities in Ottawa along the Rideau Canal and along the Ottawa parkway. You can ride your bike around that parkway and think you're out in the country.

We've heard a lot of talk at committee here about nature deficit disorder. I just wondered if you would expand on the benefits of getting out, exercising outdoors, and interacting with nature as a closing, because we're up to the last minute or so. Whoever wants to go with that, go ahead.

Mr. Don Maciver: I can quickly say that we have outdoor educators, and they have identified that nature deficit disorder issue to me because people are tending to stay indoors and play with computers and computer games and video-type things. They're not going outside like they used to.

I think also there's a sense that parents want their children out in safe conditions, and they don't necessarily think that the world is safe out there. There are a whole bunch of things that are conspiring to result in what you've just described.

Mr. James Lunney: Thank you for that.

The Chair: I want to thank the witnesses again for a very interesting testimony. I'm sure you've helped each one of us to understand the issue better.

Colleagues, I will accept a motion to adjourn.

An hon. member: I so move.

The Chair: The meeting is adjourned.

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