HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Natural Resources

RNNR • NUMBER 050 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Thursday, March 23, 2017

Chair

Mr. James Maloney

Standing Committee on Natural Resources

Thursday, March 23, 2017

● (1620)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): Thank you, witnesses for taking the time to be here today. We apologize for the delay. We had some votes in the House, which is why we are behind schedule. The four witnesses will present one after the other and then we will open the floor to questions.

Mr. Niven, I understand you are ready to roll, so perhaps we should start with you if that's okay.

Mr. Robert Niven (Founder and Chief Executive Officer, CarbonCure Technologies Inc.): Thank you very much for the opportunity. I'm happy to be participating in this. I think we have some information that should be addressed in light of our status as a clean technology provider for the natural resource sector. I would like to begin by telling you a bit about CarbonCure, some of the challenges we're facing, and some of the solutions we think would work for ourselves and others who are providing clean technologies in the natural resource sector.

CarbonCure is a Halifax-based technology that offers concrete producers a technology to recycle and sequester waste carbon dioxide into concrete. The CO2 is sourced from local industrial emitters and is injected into concrete during production. A chemical reaction occurs where the CO2 is converted into a mineral, thereby becoming sequestered permanently into concrete while also making the concrete greener, lower cost, and stronger. The technology reduces GHG emissions, lowers production costs, and improves concrete performance, a win-win process.

We recognize that industry today has a very limited budget for spending on new technologies, and because of that we've been successful in deploying a SaaS model, which requires no capital investment at all for industry to adopt clean technology. We think this is a business model that other clean technologies can successfully employ.

CarbonCure has attracted domestic and international venture capital investment and received numerous awards. We were also included in the 2017 budget as a success story for clean technologies. We received the 2016 Manning Innovation Award, as well as the 2016 and 2017 Top 100 Cleantech Award, which looked at over 10,000 clean-tech companies globally. Also we're part of the $20 million Carbon Xprize, a global challenge that looks to commercialize technologies that turn CO2 into commodities.

Concrete made by CarbonCure has been installed in hundreds of construction projects across North America, including York University, Tridel's Hullmark Centre, the Markham Aquatics Centre, and the list goes on and on. We have over 50 plants installed, albeit only two of the roughly 900 concrete plants in Canada are equipped with CarbonCure. So we understand first-hand some of the limitations of clean technology adoption in Canada and how that is relative to other countries where we've had much more success.

I'd like to take a few moments to share some of the solutions we're now working on to turn around that trend and to encourage Canada to adopt more clean technologies. We think those are transferable to other technologies in the natural resources space. I believe there's already adequate support for clean technology companies in the early R and D stage, and many of the policy measures such as procurement and regulations are probably going to take too long to have an impact on the timeframe for clean technology adoption that we're focusing on.

While these policy measures are very important, I believe that the focus should actually be on looking at addressing the valley of death, also known as “crossing the chasm”. What I mean by this is the period when technology companies pass out of the lab and into early commercial high growth. I believe the best way to do that is to focus not on the technology company but rather on the incumbent industries in the natural resource sector. This means developing policies that help these industries adopt technologies and to lower the initial testing or adoption period required to test out these technologies, validate them, and then share those best practices with other incumbents in the industry. I think the key here is focusing on policy measures that would help incumbents within industry to adopt clean technologies, as opposed to focusing on R and D, or long-term market-based approaches such as procurement. I think this is where we'll have the fastest impact and be able to generate a number of other benefits.

I'll tell you a little bit more about a space that we're in called “CO2 utilization”, where I think a lot of parallels can be drawn with other technologies. Canada possesses a global competitive advantage in CO2 utilization technologies. This also builds upon our strength in geological carbon capture and storage. As evidence, about nine of the 27 semi-finalists in the Carbon Xprize a $20-million global CO2 utilization challenge, are Canadian companies. This originated with nearly 2,000 entrants into this competition. CarbonCure is one of those 27.

● (1625)

As well, there is a $400-million investment group called the Global CO22 Initiative, which is investing and commercializing these technologies. They predict, in their report that was written by McKinsey consulting, that this space will generate $1 trillion of new revenue by 2030 and reduce GHG emissions by 10% to 15%. This report is available online.

The provinces of Alberta and Ontario are also targeting this technology sector as a key area of growth in clean technology and GHG reductions, as seen in the OCE program in Ontario, as well as the ERA program, or ERA, in Alberta.

By fostering the development of a CO2 utilization cluster, not only will Canada benefit from the environmental and economic benefits of these technologies, but many spillover benefits will be also realized through increased traditional industry productivity, new business formations, development of pan-Canadian strategic networks and clean technology business scaling and trades.

CO2 utilization is a particularly important carbon mitigation strategy for the cement and concrete sector, and the natural resource sectors generally. There's a large impact for Canada, as concrete is the second most abundant man-made material on earth. It's also Canada's largest manufacturing industry. It contributes roughly 5% of the global GHG emissions. Due to its size, it has a great potential to be able to provide a large demand for clean technologies, and as well a large solution for GHG emissions.

I think the trick with good policy developments in the cement and concrete industry, as well as any other, is not to try to finance a clean-tech option broadly, but to focus on catalyzing change. That's why I believe that financial incentives would be the best measure for early adopters to adopt these technologies under the condition that they share the findings of those technologies broadly; and other organizations or institutions within the federal government can participate in disseminating that knowledge, as well as conducting any additional third-party testing to be able to increase the credibility of those pilot project studies.

To close my comments, I believe there are many Canadian clean technologies that can be very successful. However, a great number of these technologies are failing early because they have not adequately addressed the valley of death challenges. And because of that, we're seeing many clean technology companies in this industry either fail because they've run out of money, because they're not attracting enough of a market domestically, or they're being acquired by foreign companies and being relocated into other markets.

In all of these cases, Canada is not receiving a return on the investment that they've made in nurturing and developing these early technologies because they're not able to succeed in that early technology growth. That's why I believe that financial policy measures which encourage the early adopting of clean technologies in the natural resource sector will lead to widespread change in best practices across the industry.

Thank you very much.

The Chair: Thank you very much.

Mr. Battershill, you're next.

Mr. Cody Battershill (Founder and Spokesperson, Canada Action Coalition Ltd.): *Bonjour*, and good afternoon, honourable members. It's my pleasure to be here today on behalf of Canada Action. It's a non-partisan and non-profit group that I founded several years ago as a concerned citizen who does not work in the energy or resource industry directly. I am here to tell you about a big opportunity for Canada, because our oil and gas and our natural resources are both good for our country and our citizens and good for the world.

The world needs all forms of energy, and the good news is that renewables and renewable demand are growing. However, the reality is that global oil and natural gas demand is also growing with it. Oil demand is forecast to reach more than 100 million barrels a day by 2020. Even when oil demand does peak several decades from now, it does not mean that oil demand will simply go away.

It is forecast that the world will add close to five million barrels of new demand from 2014 until the end of this year, and we still need to replace existing oil demand that is declining due to how oil is produced in natural declines. Today, roughly 85% of the world's energy use is fossil fuels, forecast to drop to 75% by approximately 2040, which is a huge opportunity for Canada to use our clean-tech sectors to produce the oil, natural gas, and fossil fuels the world needs.

It's also important to note that today Canada is a leader in renewables, and in the clean-tech sectors we are seventh globally for installed wind power capacity, 14th for solar capacity, and in the top three for hydro. We're also one of the only top oil reserve countries with carbon regulations since 2007 in Alberta, and one of the only top suppliers of oil to the United States with those regulations.

Just to give you some context and perspective, over the last decade oil and gas has often been Canada's largest export. Oil and gas exploration and production has the highest value-added to the economy in terms of GDP and above-average incomes. The Macdonald-Laurier Institute has calculated that natural resources contributed almost 50% of Canada's manufacturing, as well as 60% of our business investment, and almost 60% of our merchandise exports in 2010, supporting more than two million Canadians who work in the natural resource industries.

Energy has also been one of the biggest contributors to our trade surpluses, and I'm specifically speaking about the oil sands, a perfect example of our clean technology industry where our previous presenter was talking about the Xprize. The Xprize is an innovative program in the clean-tech sector to find solutions for carbon and to innovate using Canadian technology and for Canadian entrepreneurs to come up with solutions. That's how the oil sands got to where they are today, through innovation, technology, and research and development.

It's also important to note that, across Canada over the last couple of years, more than 3,000 companies have contributed directly to the oil sands supply chain outside of Alberta. It's also important to note that there are more than 300 indigenous-owned companies in Alberta that are active in the oil sands, with more than $10 billion of business that has been done with the oil sands industry in the last 15 years. As well, as we all want stable funding and trade surpluses and budget surpluses for our quality of life, it's important to note that the oil sands are expected to generate more than $1 trillion in royalties and taxes over the next two and a half decades. It's a tremendous opportunity for our country.

When we look globally, Canada is the third largest oil reserve. We are the top-ranked country on that list for freedom, democracy, equality, social progress, freedom of belief, freedom of the Internet, freedom of the press, top places to live, human development, best places to raise a family, transparency, and environmental performance. When we support Canadian resource production and Canadian oil and natural gas production, we are supporting good oil and gas for the world that has a positive impact globally on the environment and on human rights.

Speaking about innovation in the oil sands, in the oil sands industry, the first barrel was produced in 1967, and production will approach three million barrels a day in the next 24 months. Roughly 80% of the reserves are at depths “too deep to be mined”, which is the most common thing that you'll see in the media or when people fly over. Hence, in situ production again is a Canadian technology and a good example of Canadian innovation.

From the oil sands comes the longest life, lowest-decline oil production on earth. Instead of drilling thousands and thousands of new wells, we can simply build one oil sands facility and that will support long life, stable, and low-decline production employing Canadian families. The oil sands industry has reduced greenhouse gas emissions by more than 30% per barrel over the last 20 years, with similar growth in the reduction of water consumption and water recycle ratios, which are as high as 97%.

● (1630)

We've also increased land reclamation speed and technologies through a variety of industry initiatives, including COSIA, which is sponsoring the Xprize with the Alberta government. It's also important to note that there are six countries that produce oil with higher emissions than the oil sands, and we need to have an informed conversation about Canadian leadership.

When we're talking about Canadian families and those who work in the resource sectors, and how we defend and promote their interests, we need to make sure that we're benchmarking Canadian environmental and social progress measurements against the global metrics of competing producers, especially those who are exporting oil to Canada and those we're competing with on the global stage.

We need a zero-tolerance policy from the government, and from all levels of government and all of our elected officials, against misinformation and inaccurate reporting that undermine the good work we're doing on the environment, on technology, and on research and development. It doesn't matter what we do if we don't tell the story properly.

We need to look at who's opposing job opportunities for our families and the tax and royalty revenues that come along with them to support our quality of life, and ask how many other countries they are active in. There's a very prolific campaign against Canadian energy in all forms—the tar sands campaign and its associated network of groups—and we need to look at that to make sure we're having balanced and informed conversations.

We need to undertake an immediate and full competitiveness review and ask ourselves the hard questions. Why are there seven LNG projects under construction in the United Sates, while we have a couple of small ones that might start construction?

We need to look at how we can get in the game and get Canadian resources to market. The U.S. is actually exporting our oil and soon will be exporting our natural gas to global markets. We are missing out on that opportunity to diversify into higher value-added production and to create higher revenues for our economy.

We need to enact policies that support Canadian exports and innovation, and help displace less green oil around the world. It's a tremendous opportunity for our country.

When we look at pipelines and market access, we have one customer right now. There are 131,000 kilometres of pipelines planned or under construction around the world in 2017. We need to look at how we can get our pipelines from approval to construction, so that we can achieve full value for our resources, the resources that are owned by Canadians and that fund our social services and our government programs.

Of the world's top 15 oil producers, Canada is the only country without the infrastructure required to facilitate international free trade. This should be our number one priority. With market access, we can realize higher pricing, take our future out of the hands of our single largest customer, and create a better value chain, a higher value chain, for everyone across the fair trade supply chain that is Canadian energy.

Lack of certainty impacts investment decisions and job creation, and we're seeing that right now. Some large international companies are choosing to invest in the Middle East and in other jurisdictions around the world, and they're not investing here.

If we don't immediately undertake to support innovation in the oil and gas sector, we may get to a point in the future where we don't have another Xprize because we won't have that industry there. In the Xprize and COSIA, there are a number of great innovations that have been happening with in situ production, and with solvents and a number of other technologies that are incredibly high-tech. Canadian energy is high-tech. It's as high-tech as it gets. We need to provide certainty to companies and financial markets that Canada is open for business and focused on being competitive. The federal government could play a huge role in the next generation of innovations, supporting continued job and tax base creation along with continued decreases in environmental impacts.

Many of our oil and gas companies are some of the largest investors in wind, solar, and other forms of energy and renewable energy production. When we have these conversations, I hear from people all the time that they had no idea how well Canada was doing globally in the renewable space.

We are a leader right now. We should be proud, and we need to focus on cementing policies and competitiveness that will attract jobs and investment and continue to encourage innovation.

Thank you very much.

● (1635)

The Chair: Thank you very much.

We need to stop for about two minutes to get set up for the next two witnesses. Mr. Barlow tells me he has something he'd like to raise, which will take two minutes or less. We can use the time for that.

Mr. John Barlow (Foothills, CPC): Thank you very much, Mr. Chair, and I appreciate your giving me a couple of minutes.

Over the last year and a half, I've really enjoyed working with this committee. I think we work well together, and I respect each and every one of the members of this committee.

I think that's one of the reasons I want to speak out today, as I was extremely disappointed by an aspect of the budget yesterday. I really want to raise this amongst the colleagues I have here and just give notice that I will be putting forward a motion to ask the Minister of Natural Resources to come to committee and explain his rationale for changing the Canadian exploration expense tax credit for exploration drilling.

During our mining study, we heard how important flow-through shares were, and how vital the mining exploration tax credit was to ensure that projects move ahead. Not two weeks later we have a budget basically ripping that same tax credit, that same opportunity for exploration in the oil and gas sector, taking it from 100% down to 30%.

I know many of us maybe don't quite understand the magnitude and the ramifications of that decision, but for all intents and purposes, it will stifle any future development in the oil and gas sector.

We have a province—my home province, obviously—with 100,000 unemployed energy workers right now. We were really looking forward to something in this budget that would kick-start Alberta. This does the exact opposite.

To say my phone hasn't been ringing off the hook over the last 12 or 14 hours and my emails going quite hot and heavy would be an understatement. This is devastating to Alberta at a time we need some help. I don't want to make light of it in any way, but the Prime Minister said not very long ago that he was looking at phasing out the oil sands. This is step one of phasing out our energy sector in Alberta, Saskatchewan, and B.C.

I know my colleague, T.J. Harvey, and I respect that this also has an impact on New Brunswick and Atlantic Canada and those provinces who rely in the future perhaps of energy east, but I also know how many people from eastern Canada fly west to work in Alberta's oil sands and Alberta's energy sector.

I don't know how to put it any other way, but I was absolutely shocked to see this in the budget.

I'm really asking you guys on the other side of the table who have the minister's ear...and I'm disappointed that our parliamentary secretary isn't here. This is something we never talked about in this committee. This committee is supposed to drive policy when it comes to natural resources, and none of us ever talked about this being part of the budget in the entire 18 months we've been here together. We certainly never heard it from any witness we had for the oil and gas and mining study. In fact, it was the exact opposite.

I'm looking to you guys to get the ear of your parliamentary secretary and the minister and ask why was this decision made.

I'm going to be putting a motion forward when we return from the break asking the minister to come here to committee and explain the rationale for why this decision was made, why you're kicking our energy sector down when all we really are looking for is some help —the exact opposite.

This was the economic engine for this country. We heard today there were bill a trillion dollars in resource revenue over the next 20 years.

● (1640)

The Chair: Mr. Barlow, I think the witnesses are ready to go.

Mr. John Barlow: I appreciate that. I didn't mean to take that long. I just want to let you guys know.

Thank you, Mr. Chair.

The Chair: We'll look forward to reading your motion when it's presented. We assume your submissions will be shorter now when the time comes.

Mr. John Barlow: I'm sorry.

The Chair: We're getting under way.

Mr. Barak, are you ready to start your presentation?

Mr. Elad Barak (Vice-President Business Development, eCAMION Inc.): Sure.

The Chair: We'll give you the floor for up to 10 minutes. You're welcome to speak in either official language, and you can anticipate that there will be questions in both.

Mr. Elad Barak: Thank you for the opportunity.

My name is Elad Barak. I work with a company called eCAMION, an energy storage system company, just to put a context to my testimony.

I'm going to go through the questions I received and give some of our thoughts about how we perceive things. I'd be happy to answer any questions afterwards.

The first two questions that were given were, “What are the risks that we're facing?” and “How can the government help us with them?”

We have four main risks. Three of them are more directly related to us, and one is to renewable energy in general.

The first is that energy storage systems are not used yet on a large scale. We work with industry partners. When you want to put in an energy storage bigger than the sizes we would put in homes, there's a reliability issue. We find often that it's hard for us to work with clients, as they are afraid that this technology has never been used before. Then there's the risk associated with the financial issues. The way to tackle this—and it's something that happens, and we'll talk about it afterwards—is continuing to do demonstration projects with grants from the government. That's something that has helped us a lot in the past, and it's helping us now as we're actively working through government grants.

The second issue is regulation. There is not a lot of regulation around energy storage systems. When we need to talk about safety issues with our clients, they don't know whether what we're saying will be accepted by utilities and by the government. We work closely with utilities, but there is always a question of whether regulation will be a problem or not. There is just not enough.

The third problem is related very much to the first one; it is the financial issue. Most of our projects are very high in capex. While there is a return on investment, it's very long-term, maybe more than 10 years for the ROI to come, when we're competing with other technologies that do not require this technology—for example, just a generator instead.

For this problem, we have some suggestions we can dive into later. Just as there is BDC, maybe we could have a bank that helps more with financing projects such as energy storage system projects or renewables in general.

The fourth issue is that energy storage systems often go along with other renewable projects. For example, when companies want to invest in solar or wind, the problem is that they're not always going to have energy. If there is no sun or no wind, they then need to mitigate the difference. To really get adoption of solar and wind, you need to have an energy storage system. Since our systems are expensive, a financial benefit is often needed. We believe that some kind of government support or regulation can help.

Another thing in this regard is that there are many PPAs for solar, but when solar production is out, energy storage doesn't really achieve the goal of being renewable, because you can't use solar all the time for exactly that reason. The government will buy energy sometimes when it doesn't need it, just because of the agreements.

The other question concerned good instruments to use, working or not. As I stated at the beginning, we have a lot of help from grants. We're currently in the last stages of securing another grant with the government, which gives a lot of oxygen to our company. I would say the pros about them include that they are very helpful and help us get partners involved, because we're de-risking their financial risk while they still have the technical risk.

Among the issues with them is that the grant applications have short timelines. When we do a project of a million dollars or more and we need to get our partners to join us, getting all the approvals with them will take more than a month or two. Often we work with utilities, as we're in the energy sector, and they work a bit more slowly and need a lot of approvals, as they are not private. The grant timing needs to adjust sometimes, we feel, for co-operating with these types of organizations that require more than a month or two to approve a deal of high value.

The other thing that was asked was to give examples of other things we know or other help that can be used. We're not really sure about things in Canada, but we know, for example, that there is a lot of innovative decision-making in other countries. In Germany, for example, they're allowed to put a few energy-storage systems together and treat them as one, and by doing that, sell more energy back to the grid.

● (1645)

Not allowing these kinds of things in Canada, or at least in Ontario, prevents us from selling smaller products to our customers and giving them another financial benefit to help motivate them to use our products. Sometimes a bit more progressive thinking about this stuff can really help us.

That's just one example we had. Mainly we believe there's a bit more improvement to do with the grants.

The Chair: Thank you very much.

Mr. Christou or Mr. Patel, go ahead, please.

Mr. Peter Christou (President, Swirltex): It will be Mr. Christou for now.

We would just like to introduce ourselves. We're from Swirltex, an Edmonton-based filtration company, and we should just get right to it.

Our story is quite an interesting one. I quit my job as managing director of a major membrane firm and invented a technology in my garage, famously, in northwest Edmonton. We got international attention when I was able to use that technology at the Concordia international research centre in Antarctica. So we were very successful with that application.

I will just give you guys a quick brief on how the technology works. Originally it was designed for oil-water separation, in which there's a membrane tube, and all we do is spin that liquid within the tube. That channels the oil to the centre of the tube so that the clean water can go through. It's a pretty simple policy, but beyond that, we've done buoyancy-based membrane filtration. We can manipulate the buoyancy of those contaminants so they go to the centre of the tube.

It's been getting a lot of international attention. We've been featured in *Bloomberg* magazine. There's been a lot of attention overseas as well.

What we've really concentrated on as a company is health, safety, environment, and community. Right now the main application for our technology involves wastewater lagoons. We get into a service contract with a community so it doesn't have to invest in capital to upgrade its lagoon, especially in remote communities. We take the water from that lagoon and upgrade it to reusable quality. That provides economic opportunities in a real-world environment for that water. Before, that water would just get discharged into the bush where it had no value to that community. It was a wastewater product.

Now we have created economic opportunity through the sale of that water or the reuse of that water, which before had no value to that community.

Definitely in Alberta, it's a prime example of how a green technology can create jobs, especially in a rural setting.

We have found, especially in de-risking what we do, that it isn't about what we do, but about how we do it. For instance, in your classic infrastructure, you buy that infrastructure, you operate it for awhile, and there are problems with it. Using different business models—for instance, a service-type model or a utility model—really de-risks that industry. For instance, for first nations communities, a lot of infrastructure money goes into the community and there's a past history of these technologies not working properly and the government's being stuck with the bill. If they changed that to a utility or service-type model under which they would pay for what they used, it would really change the aspect. It would put it on the technology provider to make sure there's training, application, and maintenance of that technology. If that technology were not working, they wouldn't get paid. It's called cost per cube—the cost per cubic metre—and it's really changing the way to get infrastructure into these remote areas where it's up to the technology's provider to make sure the technology does what it says it does. Technology providers who are able to make joint ventures with the first nations, who really find end-users for the water, are the ones whose model will be more effective.

The best way to de-risk a lot of what we do and really push the technology is to take a common sense approach. One example, and especially in Alberta, involves the reuse of water. We can take one example of this from the remote camp industry. In the remote camp industry right now, they have to haul water in and truck the waste water out. If they were allowed to reuse even a portion of that water in the camp just to flush the toilets—we don't need drinking water to flush toilets—it would save the industry millions and millions of dollars per year and keep a lot of trucks off the road. But because of the bureaucracy behind it, we have to use potable water to flush toilets right now. This process has been ongoing for 10 years or more, whereas if were to say let's start five or six projects and try it out.... As soon as that water goes in your toilet, it's not clean water. We can get it to an extremely high purity. If we adopted that business policy even in Alberta alone, never mind in northern Ontario, etc., it would save millions of dollars in budgets.

Different jurisdictions have been really successful with different applications. One is Alberta Innovates. We've been involved with Alberta Innovates from the very beginning, in everything from the concept of the technology to the coaching and the networking to the main management of what we do.

● (1650)

It's one thing to have an idea for technology; it's another to make sure that you are putting it in front of the right people. We got help from the beginning to make sure this was a success, unlike in other federal jurisdictions, where you just apply and you are not assigned anybody to help you out through this process. Not everybody who is an inventor comes from a larger company and has the skill level to really make the technology successful, so it's very important that we look at other business models and what has been successful. Where we've come into play, we've definitely had a lot of international attention.

One other jurisdiction that has a different model that has been very successful at pushing innovation is Scotland, with its hydro nation initiative. In Canada, there are dozens and dozens of grants I can apply for. It's mind-boggling. There are different ways to apply for them. You might qualify for some or you might not. In Scotland, I was assigned one government appointee. I would tell him what I wanted to do with the technology, and he would decide what grants I qualified for. That's a very different approach, very easy to navigate, and it's very easy to get into that market. It's a very good way to attract other technologies to that market, as well.

Two government agencies that have been instrumental when it comes to getting funding are Sustainable Development Technology Canada and the National Research Council. Some of the government programs are better for the networking aspect, and others are good for getting the grant funding for your pilots. Without that grant funding for your pilots, it is extremely hard to prove your concept and how it works.

For the smaller companies, some of these grant processes can be just a killer. It's hard for a small company, from the conception, to go for a larger federal grant. You're not going to get the grant unless you hire a grant writer, which can be extremely expensive. Even if you are applying only for, say, $400,000, there is no difference between the $400,000 project and $20-million project. The amount of paperwork is the same for all of it. It really depends where you are as a company, but only the larger companies can afford to go through that process. The smaller innovators are left out of that process because it is far too intensive.

Some of the things we would suggest, especially to the natural resources sector is that although the grant system is important for helping out innovators, it is very paperwork-intensive. It's so intensive that we get to the point where it's almost not worth it. I'll give you an example of what we are going through right now. We applied for one grant that was both provincially and federally funded. The grant process has been going on for about a year and a half now. We've qualified provincially, and the province is willing to give us the money, but we haven't qualified federally yet. It's the same program and the same application, but two different systems altogether. We are now at the point where we might move ahead with that grant without the federal government, and just go with the provincial government's funding. When the system happens like that, there is really something wrong. If it's one system, one way of showing it would be to have a joined-hand process, and not "You qualify for it provincially, but federally we're pulling out." That's not a good story to tell in Canada.

As for the different business models, as I explained, put it on the utility model so that the government doesn't actually have to pay for that infrastructure. It's put into the free market to have the utility providers or the technology providers bid on it on a per-user basis. It's up to the technology providers to make sure they can work with first nations or get local people to work at that plant, and to make sure that the technology they are providing works the way they say it works. If it does, it will be profitable. If it doesn't, guess what? The next person comes in.

Another aspect of it, just from travelling around and seeing some of the other government programs, is that the committee should really look at other countries and how they approach innovation and the grant process. Scotland is one of the most interesting countries in how it has approached innovation. It's a very oil-rich country, but it has been groundbreaking, especially with the hydro nation initiative and how they implement it, saying, "Yes, we want green technologies in this country, and we want to be industry leaders in the green technology."

● (1655)

Our last suggestion is on the grant process. Quitting your job and starting a green technology is a hard process, to say the least. We have to make sure that we have the right programs in place for a lot of the little guys and not just the bigger innovators.

Right now the grant system is really geared for the people who can afford to do it. If you're innovating, and no matter how small or big you think it is, you cannot afford a $40,000 grant-writer and take a year and a half for a $400,000 grant. If that's the system you guys keep, there's something really wrong with that system. We need to make it easier to access those funds. Keep that system for the $20 million projects, because you need those checks and balances in place, but we can't have the same checks and balances for the $200,000 project as we have for the $20 million projects. It's not worth it.

Thank you.

● (1700)

The Chair: Thank you very much.

Mr. Harvey, you're first up.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): Thank you, Mr. Chair.

First, I want to thank you all for coming.

It was really nice to meet you earlier, Cody, and I thank John for that. I liked your comments and I think you're absolutely right. As Canadians we need to do a better job of tooting our own horn, and recognizing innovation across the different sectors in this country and the strides that have been made to deliver those technologies in a clean, efficient manner. We're always saying we can do better, and that's absolutely right. Every industry has the ability to do better, but we don't do a good enough job of tooting our own horn on the innovation that has already occurred within the industry. The way those industries conduct themselves is definitely world-class, no matter whether it's mining or oil and gas or hydroelectricity. We certainly have a lot to be proud of in this country.

I want to touch really quickly on this. I'm going to give everybody an opportunity to comment.

The first thing Mr. Niven touched on this morning was the gap in trying to get over the hurdle from the initial development of a new technology to commercialization. That's something that you touched on as well, Peter. I think it's certainly a place where there has been a gap.

We announced around $400 million through the venture capital catalyst initiative yesterday, which is supposed to help bridge that gap. That money is supposed to be concentrated on trying to allow businesses to get over that gap, and I recognize it's a step. It's probably not everything that we need to have but it's a step in that direction.

I'm just wondering what you think. Is that the type of initiative we need to see, or do you think you're still not going to be able to utilize it because of the burden that always encompasses small businesses when they're trying to apply for government assistance? I recognize where you're coming from. I've owned my own small businesses and I've worked for other businesses, and I've applied for lots of government funding, and I recognize the tremendous amount of work and effort that has to go into doing that.

Would you like to comment on that?

Mr. Peter Christou: Yes, I think it really depends on what you must have to qualify for that funding. Because of the attention we've got in the media, we've got a lot of different government agencies approaching us to see how they can give us funding, and we just haven't qualified for that funding because of the way that funding has been structured. We've received $10,000 worth of funding through Alberta Innovates. We've received a lot more through the French government than we have through the Canadian government, just because of the way it has been structured. It has been made a lot easier and it has been explained a lot better in other jurisdictions than in our own.

It's always good to make that money available but if you make $40 million available and it's so hard to get, it just doesn't make any sense.

Mr. T.J. Harvey: What has been the shortfall in your own instance in allowing you to qualify for that funding?

Mr. Peter Christou: I think on the provincial side it has been a lot easier, especially since we've had the hands-on coaching and mentoring from square one. So they're more familiar with the technology.

On the federal side it's completely hands-off. We talk to people on the phone. There's a complete disconnect from the needs and wants of the companies, especially, we found, in Alberta, to the point where we've had a conversation where people say they just don't care.

Mr. T.J. Harvey: I understand what you're saying, but what I'm trying to get at is that there's a big difference between wants and needs. What I'm asking is, what is that inhibiting factor? What is making it so that you cannot qualify for funding federally that you can qualify for provincially? You said that you were working on both, but you were able to qualify for the provincial funding and not the federal funding.

Mr. Peter Christou: Yes.

Mr. T.J. Harvey: I recognize that it's harder to qualify for one than the other, but what is it that's causing you to stumble?

Mr. Peter Christou: It's definitely the burden of proof. As an example right now, we've done pilot testing and we've used it in the field. For them to fund a project of that size, they want almost another project that's 50% that size to work in a real-life manner as well. It doesn't make any sense for us to build a pilot half the size of the pilot that we want to test out just so we can get $400,000 in funding.

That burden gap is more for $20-million projects, not for a $400,000 grant. Especially with that particular funder through the federal government, they are used to doing projects that are a lot bigger, and not the smaller projects. The burden of proof is built for those bigger projects to get the $20 million. We can't scale up to their size and to what their burden of proof is. It has been good enough for the provincial government, but not for the federal government, because there are two different standards.

● (1705)

Mr. T.J. Harvey: That pool, is that through SDTC or...?

Mr. Peter Christou: That was through SDTC.

Mr. T.J. Harvey: Cody, do you want to comment on that as well?

Mr. Cody Battershill: Yes. In looking around the world at other jurisdictions, as Peter mentioned for Scotland, I think there are other examples out there of how we can apply government assistance and innovation to commercialize new technologies and to get some of those technologies over the hump of that burden of proof.

I think it's also important that we look at making our industry more competitive, especially in benchmarking what we're doing up here against the United States. That's our number one market and our number one competitor right now. How can we create jobs? Also with those increased revenues, we can use those revenues to continue to diversify.

Mr. Robert Niven: I'd like to answer. Can you hear me?

Mr. T.J. Harvey: Absolutely. We can hear you, and I think it's really relevant to what you raised originally, so by all means, go ahead.

The Chair: It's going to have to be very brief, unfortunately.

Mr. Robert Niven: Just to make it clear, that $400 million was venture capital, on commercial terms similar what you find from any other venture capital funds you would find in Silicon Valley or around the world. We've gone through the process of grants and then VC, including BDC, who was the recipient of the bulk of venture capital investment in this last budget.

Really, what I was focusing on is that VC money is very expensive, as required, because venture capitalists are investing in high-risk enterprises before they're commercial. What is required, though, is that in the valley of death the best money to earn is customers' money—sales—because it's more than just the capital you're receiving. While that does have some overlap with VC, there are so many other added benefits from sales. I was trying to make the point that what would be required would be to incent industry to become customers, to adopt these technologies, and to use their expertise to take the best clean technologies available—

Mr. T.J. Harvey: In your specific case, you mentioned that you have two concrete plants that have already adopted that technology or that have test-run that technology for you. Would you say that where your need lies as a development company is more in the branding and marketing, to allow you to further increase your sales and get more people to adopt that technology? You've already basically proven the technology.

The Chair: I have to stop you. I'm sorry. We're past the time.

Mr. Barlow.

Mr. John Barlow: Thank you very much, Mr. Chair.

I thank all the witnesses for taking the time to be here and for giving us some good information.

Mr. Battershill, you talked a lot about how we're communicating things and some of the impressive innovation and technology advances that we've made already in Canada. Ironically, you talked about $1 trillion in resource revenue over the next 20 years, and I'm wondering if you can recalculate that number after yesterday's budget's eliminating the exploration tax credit. I bet you it's not going to be anywhere close to that.

In my riding, I have Blackspring Ridge, an Enbridge operation of 170 wind turbines. I have 60 municipalities that are working together to do an energy-from-waste program. I have Drake Landing, a solar geothermal community. They've done all of it. You talked about the Xprize and MEG Energy's HQ. We had them in a couple of weeks ago. The energy sector—the oil and gas sector, the oil sands—has reduced its GHG emissions by 30% over the last 20 years. They have done all of these things without a price on carbon. They have done these things because it makes them competitive, it makes them efficient, and it's the right thing to do.

Can you talk a bit about why these innovations are happening? They're doing this on their own in the private sector. I don't think a carbon tax is all of a sudden going to make them innovate, because they're doing it already.

● (1710)

Mr. Cody Battershill: Thank you very much, Mr. Barlow.

When you look at what's been happening in the oil sands and Alberta energy industry, there is a constant push to reduce their environmental impact. That is always additionally good for the bottom line. There has been enormous technology innovation such as SAGD, steam-assisted gravity drainage, which is applicable to 97% of the oil sands land area. That was a technology developed through the Alberta Oil Sands Technology and Research Authority several decades ago, and a great example of government assistance to get an industry off the ground and to help innovate and unlock this technology in the first place.

Since then, we're seeing the steam-to-oil ratios for many of these projects continue to decline. Less steam is needed to get the oil out of the ground, and that creates less greenhouse gas emissions. There has also been an incredible push to find other technologies, specifically with solvents. Also, in the oil sands industry, they are using the waste heat to produce electricity, so you actually have some of the greenest barrels of oil in the world coming out of the oil sands in Alberta.

If we're going to do anything in the oil sands industry and you're going to tax it, it's very important that you reinvest that directly back into the industry so that it has the assistance to continue to innovate. We need policies so that the industry knows, as they continue to lower greenhouse gas emissions and lower environmental impacts, that there is going to be a market for their products, and they're going to have the assistance of all governments getting our products to market.

The fact that this committee exists is a great example of how proud we should all be as Canadians about how we produce our oil and gas, how we treat our people—worker safety—and how we respect human rights in this country.

Mr. John Barlow: Thank you. I'm going to split my time with Ms. Stubbs.

Mrs. Shannon Stubbs (Lakeland, CPC): Thank you.

Thanks to all the witnesses for being here. Thanks to the member from Edmonton, too. That's right near my riding, and the hometown of our leader. It's great to have you here as a symbol of the kind of innovation that takes place in Alberta every day—and has for decades.

I'd just like to follow up on some points my colleague made. I'm glad that every time we have a discussion in this committee about the importance of not pitting one sector against the other.

Cody, I'd like to ask you to expand, if you would, on some of the specific examples of oil and gas innovation and technologies that have led directly into the development of renewable and alternative energies. And if you want, I'd invite you to comment on perceptions of energy development in northeastern Alberta, where I'm from, and make any comments you'd like on how the work in northeastern Alberta and across Canada in energy development compares to other countries, and other top oil reserve countries around the world.

Mr. Cody Battershill: Thank you very much, Mrs. Stubbs.

It's incredibly important to benchmark how we do things in Canada, and the global big picture of oil and energy demand, through the success of our businesses. Energy demand for everything is going up. Some of our big pipeline companies have been able to diversify into other forms of energy production such as solar, wind, and geothermal. There are a number of fantastic success stories.

We should be diversifying as things are getting better, rather than trying to diversify and adding costs and regulation when things aren't improving. We need to make sure that our industry can compete globally in a lower commodity price environment. That means benchmarking what we're doing against our competitors and around the world.

A great example would be that Canada is ranked number two in the world for the social progress index. We're importing oil right now in eastern Canada from countries that are way down the list, that do not have the same values as us, and do not respect human rights the same way we do.

I would also like to say that if you look back at the oil sands and when the first barrel was produced, you see that they've gone through a number of different evolutions in how production happens. In mining, it used to be with a large bucket wheel; now it's truck and shovel. The newest oil sands mine is producing oil that's within a couple of per cent of the average barrel imported into the United States, using a paraffinic froth treatment process. Technology, innovation, and research are driving the oil sands.

We have a huge opportunity as well in this country with liquefied natural gas. This has contributed immensely to our quality of life and to our social services—paying for our doctors, teachers, and front-line responders.

● (1715)

The Chair: Unfortunately, we're going to have to stop. A vote has been called in the House, so we have to adjourn the meeting. I apologize to the witnesses. I very much thank you on behalf of the committee for taking the time to be here, although we've had to shorten the proceeding today. There's no choice in the matter.

Thanks very much.

The meeting is adjourned.