

BUSINESSEDGE



NEWS MAGAZINE

Fall 2023

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THAT is a catastrophe

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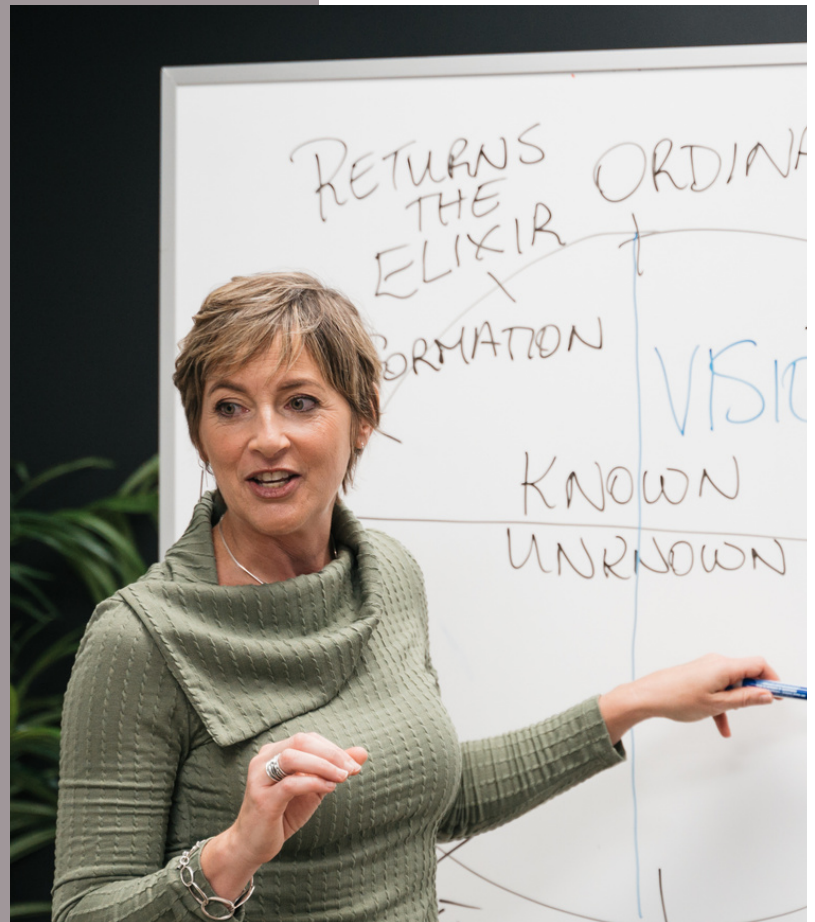
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GET IN CONTACT

Publisher

Rob Driscoll
(403) 968-7638
info@BusinessEdgeMedia.ca

Marketing/Advertising /Digital Media

403 968 7638
info@BusinessEdgeMedia.ca

Subscriptions

info@BusinessEdgeMedia.ca

Editor

Muriel Protzer
muriel@BusinessEdgeMedia.ca

Office

#246, 1500 14th Street SW
Calgary, AB T3C 1C9
Phone: (403) 968-7638
BusinessEdgeMedia.ca



BRAD
HAYES



Can climate be litigated?

As public discourse about climate change and climate crisis escalate to the point that the Secretary General of the United Nations talks about “global boiling”, we hear more and more about lawsuits launched against organizations accused of creating or failing to stop greenhouse gas emissions (GHGs). As the story usually goes, by promoting GHGs, these agents have exacerbated climate change, damaged the environment, and the physical/mental health of plaintiffs so extremely that legal remedies are required.

Major oil companies were the initial targets – Shell was sued in the Netherlands by non-governmental organizations (NGOs) for violating human rights obligations and ExxonMobil was accused of failing to disclose climate change risks by the Attorney General of Massachusetts.

But now governments themselves have become targets, exemplified by the recent decision in Montana

District Court, where an activist group successfully sued the State of Montana and its agencies regarding the constitutionality of the state’s energy systems. They alleged that state practices caused and contributed to climate change in violation of plaintiffs’ Montana constitutional rights. A trial was held June 12-20, 2023, and on August 14 a judgment was issued in favour of the plaintiffs.

Plenty of analyses has been written – energy analyst Irina Slav ridiculed the decision, calling it “The sunset of reason”, while climate crisis advocates supported it, saying “Courts are affirming climate science”.

In fact, you can find just about any opinion you want to find – and this is just the beginning, as Montana is going to appeal the decision to a higher court. That said, in reading the judgment, I find some very interesting points about strategies that people should understand in trying to figure out the significance of the decision.

Our Children's Trust, the advocacy group organizing the lawsuit, selected the legal route for their complaints because they knew they could not rely on technical merit to make their case. A hearing in front of an impartial group of technically competent scientists and engineers would carry a high risk of failure in view of the technical complexities and uncertainties around the material effects of climate change. This is a well-known tactic in legal and regulatory circles – groups with weak technical cases want to be heard by a non-technical judge.

They want to include appeals to emotion, whereas groups with strong technical cases want to focus on quantifiable facts presented in a regulatory setting to people that appreciate the technical arguments. A district court judge is qualified only to pass judgment on legal issues, not on the technical facts or principles underlying the arguments. In this case, the judge should not rule or opine on the merits of whether climate change is happening or what the causes might be, but instead should choose what to believe based on testimony and documentation submitted.

The trial was relatively short – seven days, so probably about 40 hours in court. That is not much time to address critical constitutional issues, considering that most trials considering questions of substance are usually longer. Plaintiffs presented 24 witnesses and filed 168 exhibits, while defendants presented only three witnesses and four exhibits. The decision came down in two months – practically overnight by legal standards.

The “Finding of Facts” written by the judge, based on witness testimony, is a simplistic listing of climate crisis rhetoric. The judge accepted assertions of unquantified impacts individual plaintiffs claimed to have suffered because of climate change, including:

- Feeling claustrophobic because smoke linked to climate change caused one boy to “seek refuge indoors”
- Losing weeks of employment because of a particular forest fire
- Impaired recreational activity on Montana rivers because of low stream levels
- Depression arising from seeing the glaciers recede in Glacier National Park

Further along in the Finding of Facts, the judge writes: “It is technically and economically feasible for Montana to replace 80% of existing fossil fuel energy by 2030, and 100% by no later than 2050, but as early as 2035.”

To support this assertion, she accepted without reservation testimony by Mark Jacobson, an academic who in 2015 claimed that all energy (not just electricity) for the entire continental United States could be produced by wind, solar, and hydropower by 2050 to 2055. Despite the lack of progress toward this goal in the eight years since, and the rejection of this thesis by almost every regulator and power authority, the judge accepted the Jacobson viewpoint.

The defendants did not present dissenting expert testimony regarding uncertainties or alternatives around issues concerning anthropogenic influences on climate change, or around the practicalities of providing affordable and reliable energy for all citizens. And they clearly did not see value in arguing against the emotionally powerful but scientifically unsupported testimony of individual plaintiffs – for example, by pointing out that forest fires have always and will always happen, that it is impossible to link “climate change” to the fire that deprived one plaintiff of some wages, that rivers generally have an ever-shifting cycle of high-flow and low-flow years, and that glaciers have been receding since the last ice age over 15,000 years ago.

In his review of the case, Frances Menton, a practising lawyer writing as the Manhattan Contrarian, noted:

“Reports from the trial indicate that the state put on almost no defense. Expert witnesses that had been named by the defense on science issues (e.g., Judith Curry) were not called to testify. I have to think that the reason for this is that the Montana [Attorney General] has a read of the Montana Supreme Court that tells him that this decision will shortly get reversed.”

This assessment makes sense to me. Montana could have done a lot to refute the weak and largely baseless arguments advanced by the plaintiffs, but instead opted to roll over in a cursory proceeding. For the sake of the economic well-being and energy security of Montana citizens – and citizens of other jurisdictions where this case could be cited as a precedent – let's hope that those tactics do not backfire. ■

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UTHE



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While mortgage holders often work with brokers who simply take the commission from the deal and disappear, Uthe looks at his role as an industry-leading coach who can provide valuable guidance to clients on an ongoing basis.

"Maybe you can foresee a move in the future – perhaps for a new job or lifestyle change – three, five, or 10 years from now. When it comes to these large investments, it makes sense to have a prudent plan with contingencies in mind – and it is critical that you have access to the most important information.

"That is what I am here for; I am constantly educating myself so that I can be a valuable resource to my clients."

A series of interest rate hikes is the latest sign of how the mortgage industry can undergo great change.

Recently, the Bank of Canada released a document indicating that about 50% of variable-rate, fixed-payment mortgages have reached their trigger rate, the point at which the mortgage payment only covers interest and contributes nothing toward the principal. This affects about 13% of Canadian mortgages.

But that is not cause for panic, according to Uthe.

"Mortgages are usually the most significant financial transactions in our lives, so it is paramount that we understand what we are getting into, as well as how things may change down the road," Uthe explains. "When I meet with my clients – be it in person or virtual – we discuss not only where we are now and how we got there, but what the future may bring. There are all sorts of variables that should be considered when managing mortgages and other real estate investments.

"The last thing you want to do is make a rash decision that could put you in a difficult position," Uthe explains. "If you work with me, I can go over various options, including possibly increasing your mortgage payment by a sensible amount so that you keep pace with the mortgage term without putting too much pressure on your current situation."

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A group of business professionals, including men and women in suits and business attire, are walking through a modern office hallway with large windows. The scene is bright and professional.

Claystone wastes no time appointing CEO

Business Edge Media

Claystone Waste Ltd., a Western Canadian waste management leader, announced the appointment of **Corey Popick** as its chief executive officer, succeeding **Pierre Breau**, who is retiring at the end of this year. Popick was selected as CEO by the Claystone Waste board of directors through a nationwide search process led by the executive recruitment firm **Odgers Berndtson**. Popick, a registered professional biologist, has been Claystone's chief operating officer since 2021.

Vancouver-based **Spey Resources Corp.** (CSE: SPEY) has selected **Nader Vatanchi** as its chief executive officer. Vatanchi, who has served on the company's board of directors since 2021 and was Spey's CEO from March 2021 through October 2022, replaces **Philip Thomas**.

Wavemaker Canada announced that **Nikki Stone** has been named Canadian CEO. Stone, formerly executive vice-president and managing director at **Zenith Canada**, will serve on **GroupM Canada's**

executive committee to represent Wavemaker Canadian operations in addition to the Wavemaker Americas ExCo board.

Nesto, a leading Canadian digital mortgage lender, welcomes **Max Wegner** as its chief revenue officer. Wegner comes to nesto with 18 years of experience in the mortgage industry. He formerly worked at **Rocket Mortgage**. His most recent role was vice-president of seller services and VP of operations and client experience.

Jeff Hussey is stepping down as president and chief operating officer of **Osisko Metals** and moving to **PPML** (holder of the Pine Point Project) as chief executive officer. **Hussey** remains a member of Osisko Metals' board of directors.

Banxa Holdings Inc. (TSXV: BNXA) announced that **Zafer Qureshi** will take on the role of head of corporate affairs, and **Patrick Maguire** becomes the company's new chief financial officer (CFO).

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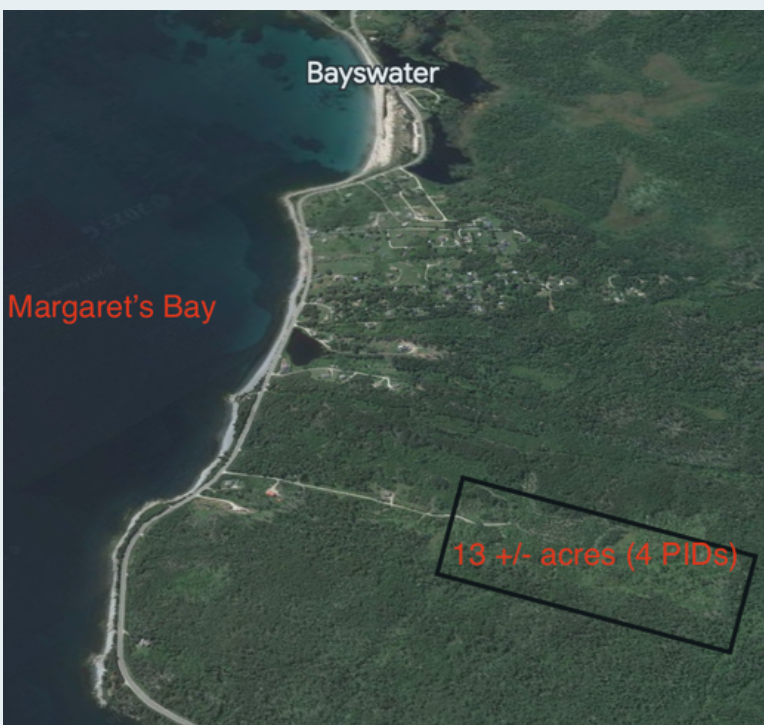
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Passion for cinema powers Bailey through industry challenges

ROB DRISCOLL AND KELLY RYAN
BUSINESS EDGE MEDIA

Cameron Bailey must feel like he just leapt out of the frying pan(demic) into the (line of) fire.

After more than three decades of industry work including as programmer, film critic, and artistic director, Bailey was named to the coveted top post of the Toronto International Film Festival in November of 2021. This meant that the first TIFF with Bailey at the helm would require expert navigation of mandates, restrictions, and more.

Despite a mountain of impediments, Bailey oversaw a successful 2022 TIFF with strength, resilience, and class befitting a lead role in an Academy Award-winning action flick.

Sporting eyeglasses more stylish than those of Clark Kent, and preferring a perfectly tailored three-piece suit to tights and a cape, Bailey must have breathed an enormous sigh of relief, after emerging from extremely trying circumstances. Surely, things would be smoother in 2023.

However, as is the case with most Hollywood plotlines, more drama was in store.

On May 2 of this year, the Writers Guild of America (WGA), representing about 11,500 screenwriters, went on strike.

The plot thickened even further when on July 17 U.S. actors' union SAG-AFTRA announced its own strike action.

So much for a smooth 2023.

TIFF 2023 – the Sequel should have us all on the edge of our seats. One thing you can count on is that the CEO will not wave a white flag, no matter what is thrown at him.

As Bailey will tell you, “the show must go on.”

1. Can you provide context regarding the economic impact of the Toronto International Film Festival?

Well, we last did an economic impact study several years ago, almost a decade ago. We are due for another one. And at that time, our economic impact in Toronto was measured at about \$200 million annually. So it is a significant impact. That is not just the money that is spent attending the festival by our audience – and our audience is roughly about 270,000 attendees every year, plus all the people who attend free events – but it's also all the ancillary things.

It's the hotels that are full. It's the taxis, and the Ubers, and various forms of transportation people use in the city. The restaurants are more full, the clubs – there are lots of things that people do when they attend a festival. They shop. All of those things are part of that. So it is a significant part of the city in terms of just the financial impact, but beyond that, certainly what I've heard when I travel – and I have heard this from others – Toronto is known for a few things. People know our colleges and universities, they know the Raptors, they know the Leafs, and they know TIFF – and that's a part of the brand of the city and the value that I think we bring as well.

2. Now, we have seen that TIFF is, in some respects, the largest film festival in the world. By what measurement would it be No. 1?

Public audience is the first measure that we use. There are many festivals that are primarily industry events or media events, and they've got large numbers of industry professionals who attend every year. We have that, but we also have the largest public audience ... I think also one of the most devoted and passionate film audiences in the world. Filmmakers and the big film companies, whether those are Hollywood studios or big companies coming out of Europe, or Asia, or other parts of the world – they know that when you bring a film to our festival, you are not just launching it for media. You are not just here to buy or sell movies, although that happens, too.

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But the audience is what really brings these films to life, and that is why filmmakers make films, ultimately. So getting that audience reaction from the Toronto audience and the possibility of winning the People's Choice Award here are what make it, at least by some measures, the top festival in the world.

3/4. How far reaching is the economic impact? Does it spread across Canada in terms of movie investment?

I think it does. If you take just the perspective of looking at film production and television production, screen industries are affected by a number of different things. Of course, the Canadian dollar against the U. S. dollar matters. The availability of top-notch film crews who can be involved in the production of series and films matters a lot. But so does the idea, the brand of a city like Toronto, Vancouver also, and a place like Canada in terms of attracting productions, largely from Hollywood, but from around the world as well.

And the fact that the entire film industry at some point comes to Toronto every September for our festival, gets to know people here, gets to know the quality of the film industry here, gets comfortable with the city, helps I think when they are making a decision about – are they going to shoot a movie? Are they going to come here for several months to shoot a TV series? Well, if they have been to Toronto many times, they have their favourite hotel, they have their favourite restaurant, they have friends and colleagues here already. That is going to help them make that decision in our favour. And so that is something that extends well beyond the city and certainly well beyond September as well.

5. Do you see the festival being affected by the labour problems that we are seeing in the industry? (Editor's note: this interview was conducted on July 17, 2023)

Yeah, I think we're going through an evolution in the industry. It is a combination of technology, business reality, and audience behaviour that comes together to make change every decade or so. There is a new change. And right now, I think we are seeing the longer-term impact of a shift in how films are made, how the business around those productions happen because of the rise of streaming companies, because of changes in technology, and changes in audience behaviour, people viewing more at home.

All of those things have led to this particular labour dispute, which needs to be resolved, and we hope it is resolved successfully soon, but I think both writers and actors are looking for what they would see as a fairer division of revenues that come out of those industries. And then there is the technological part with artificial intelligence and how that will affect the screen industries. What it does for a festival like ours is, we have to take a close look at what that means in terms of who will come to the festival, how business will be done, that kind of thing. You know, what I am hearing is that the strike could be short, medium length, or long, depending on a number of different factors.

It could well end before our festival happens in September, but if it's continuing then, we are aware that we will still have the films at the

festival, we will still have lots of stars on the red carpet because the strike affects only a portion of the industry, those films that are held by the large American studios and streaming companies. There are many films that fall outside of that – they are independent films, and they can participate in a different way. If they have SAG/AFTRA actors in them, they just apply for what is called an interim agreement. So there are the independent films, the international films, the Canadian films and series that are not governed by the terms of the labour action. And so that will still be a big part of our festival. We faced different challenges in the past, and we have just come off the COVID festivals of 2020 and 2021. We are used to dealing with things that are well beyond our control, but that we have to respond to, and we are doing the same this time out.

6. Yes, it's been a very interesting nearly two years for you as the CEO. How has the personal journey been for you as a former programmer and film critic, now being the CEO?

It has been incredibly rewarding and inspiring to work with the incredible team that we have at TIFF – the staff and the volunteers to put on this event every year that so many people look forward to. Between what happens in cinemas and out on Festival Street, we have got over 600, 000 attendees participating every year. People build their vacations around it. Students will start their school year by just bingeing on festival films. So that is an important thing to us, in addition to everything we do all year round. And that is what has always inspired me the most. This is my 26th festival working with TIFF in one capacity or the other. And now that I am in this position, I feel privileged to be a part of it and to be leading the team as we bring this event to the city of Toronto and to the world.



Cameron Bailey
CEO of Toronto
International
Film Festival

7. Wouldn't it be nice to have an easy year, though?

(Laughing) You know, it is always something, and there is a great showbiz tradition of “the show must go on.” Things will come, things will go. There will always be challenges. But the passion that goes into bringing these movies to audiences, the excitement that people have when they are in a lineup and they get to share something they have already seen (with) someone who hasn't seen it and tell them, “You have to see this movie! I just saw this incredible film from...” – could be from anywhere in the world. That is why we do it, and whether it comes without new complications or with a whole lot of them, we will keep the show going.

8. We had the privilege of doing a podcast with Anthony Shim last year, and he had great success with his film *Rice Boy Sleeps*. What are your thoughts on the state of the Canadian filmmaking industry, and are there other up-and-comers that we should know about?

*There has never been a more exciting time to be watching Canadian films, and to be a part of the Canadian screen industry. There are exciting filmmakers like Anthony Shin with *Rice Boy Sleeps* ... obviously, people from maybe the previous generation like Clement Virgo and Mina Shum, and so many others who have been making great work. There are multiple generations of filmmakers maybe who started in the 80s, the 90s, the early 2000s, and who are just starting now, who are telling stories that are unique to who we are. And there is something special that you get, when you take in a story that resonates with you because it is familiar to you. It comes from a place that you know well. Maybe it reflects something of your own experience.*

*We just saw a film called *Blackberry* by Matt Johnson, who is another great young Canadian filmmaker. This is the story that most Canadians do know, the story of the rise and fall of Blackberry. And the way that he tells it, it is set in Waterloo, Ontario, it's funny, and it is a great reflection of these big, global stories that begin in Canada. And many Canadian filmmakers are telling similar stories right now. What we like to do is to find this talent, whether they are directors, actors, screenwriters, and present them to our audience, and say, “These aren't just Canadian movies; these are great films that we think you need to see, but you may find something that's even more powerful from watching them because you know the story.” You feel it in your bones. It comes from where we are. And as entertaining as Hollywood movies can be, or movies from other big commercial industries around the world, there is something special about homegrown stories. So we are always honoured to do that.*

9. You have been quoted as saying your mission is to change the way people see the world through film. Can you expand on that?

Sure. Our mission is to transform the way people see the world through film. It has been for many years. That is what guides us. That is how we make our strategy. That is how we make decisions in terms of what we will do or won't do. Is it transformative? Are we continuing to bring those transformative experiences to people? And that is because we believe that art has the power to change the way

we see the world, to make us see things in a different way, see other people in a different way, connect with other people, become more empathic through understanding how different parts of the world or different people outside of our own circles might live their lives. And we think that cinema has a special power there. I think all art forms can do that – music, and literature, and theatre, and visual art – anything can do that.

*Film does it in a special way because it is such an immersive, emotional medium. When a film is working its magic on you, you kind of have to just give into it. It is the big screen, the immersive sound, the power of performance, the power of a closeup or a scene that just fills you with emotion. It's not simply an intellectual process that happens in your brain only; it's in your heart as well. And through that, you can understand more about the world and more about yourself. Last year, we opened our festival with a film called *The Swimmers* about a pair of sisters from Syria who were forced to flee Syria because of the war there, became refugees in Europe, and then went on to become Olympic athletes.*

They were already competitive swimmers, but they have this remarkable journey – true story. This was a fictionalized version of that true story. It was our opening-night film, and I heard from so many people who were incredibly moved by watching that story. They knew about it from reading the news, watching the news, but to see it on film was more powerful. And it helped change the way they saw refugees. Of course, we have refugees living in Canada all across the country. To watch a film that illuminates their stories and just gives it a deeper impact is a very powerful thing. And that is why we do what we do.

“OUR MISSION IS TO TRANSFORM
THE WAY PEOPLE SEE THE
WORLD THROUGH FILM.”

10. Diversity has always been a big part of the festival since I started paying attention. How are we doing in the film industry, in terms of making sure that everybody has the right to succeed?

You know, we are making progress. Film is like any other sector, and what we are trying to do is to have as level a field of opportunity as possible. So as much as we can do to help provide equal opportunities, and that could be equal opportunities to have access to the kind of film that we present and the experiences we present. It can be equal opportunities for young creators to be able to get a camera in their own hands and tell their own stories. So equal opportunity across the board is one of our goals. But also, I think, reflecting the community that we are a part of (is important, too). You know, we are a part of the city of Toronto. Toronto is a city where every other person was born outside of Canada. Half of the population of the city has roots in other countries, direct roots. And most of us, by far the majority, have family roots somewhere else. And that kind of mix of experiences needs to be reflected.

And that's what we draw on as well – to make sure that we are relevant and resonating with the community. So that is our approach to diversity, just in terms of the cultural background. We are also looking more at making the festival and TIFF Bell Lightbox, and everything we do more accessible to people who are living with disabilities. That is a big part of accessibility, and diversity, and inclusion for us as well. So it takes many forms – all of the many different identities that we each bring to our daily life. That is something that we want to make sure everyone feels comfortable with and feels included when they come to TIFF.

11. What's your favourite moment from TIFF 2022?

Ooh, that is a tough one. So, listen, I will say one thing – I came to Canada as an immigrant, having never watched a movie in a movie theatre before I was eight years old. The first movies I remember seeing that stayed with me were by Steven Spielberg. I saw Jaws early on. I saw Close Encounters of the Third Kind. I went to see that movie five times. It struck me so much. I did not even know why. Later, I studied those movies, and last year, the 2022 festival, I had the opportunity to walk on stage and to present the world premiere of the new film by Steven Spielberg, The Fabelmans, and that was a big moment.

I am not going to lie. His films meant a lot to me, really, meant a lot to millions of people around the world. And this was his own personal story. And he chose to bring it to Toronto to share it with our audience because of our audience. And that was a testament to all the work that we have tried to do over many years to make it an audience-friendly festival where a filmmaker like Spielberg chooses to launch his new film.

12. Beautiful. I would say that's hard to beat. Now back to your personal journey; as a first-generation black immigrant, did you have to break through some barriers?

I think that the important thing ... came when I was a child. I am certainly not a young person anymore, but, you know, there are still people going through the experience of exclusion in Canada, and certainly in Toronto, for various reasons. I think it is important to know that. There will be times when you are the only person who is like you in the room, right? That has certainly been my experience in the past. There have been times when you will be prejudged because of what people think they know about you, based on various attributes you may have. Race is only one of them. You have to find ways to get past that. You have to find ways to confront it when it is happening, when you feel like it is not fair at all.

And I think, most importantly, what I have learned is that you have to find ways to remain true to yourself, to express yourself authentically, to occupy the space that belongs to you, to not make yourself small necessarily, but to really live in your identity, whatever that might be, and present that, and recognize that as a plus. It is not something that you need to shrink to kind of fit in, but you need to actually be yourself and your full self.



That is actually the value that you are bringing to whatever you do. That has really been what I have learned over the years, and what I try to communicate to younger people who are maybe beginning to go through that same journey.

13. Where will you be during this year's festival?

During this year's festival, I will be everywhere. I am introducing films. I am greeting filmmakers and actors who are in town, my colleagues from all over the world in the industry who fly into Toronto from 70 or 80 different countries. I am spending time with the audience, I am hosting Q&As, I am just walking down Festival Street to get the feel of the vibe this year. I am everywhere during the festival, and that is what I love about it.

14. What is your favourite part of the job?

So many things. I get to work with great people. I get to be up close with some of the most talented film artists in the world. But I think what it is, you know, is every spring and summer we spend a lot of time – hundreds of hours – watching films and choosing from those to put the festival together. Every now and then you will watch a film, and you will get this feeling in your gut, like a tingle, like, oh my gawd, this is amazing! And you hope it stays amazing for the duration of the film. And when it does, and the lights go up, you feel like, I've really experienced something remarkable.

And then you get to keep that as a secret for weeks, sometimes a couple of months until September. And you can then share that with hundreds of people, sometimes almost 2,000 people in one of our theatres. And you know that many of them will have the same feeling, and so you carry that with you and you wait. You just think, I can't wait to unleash this experience on people and share something really remarkable with them. And that really is the best thing about it – knowing that what you feel, you will be able to expand and amplify in a much bigger way in a few weeks time.

15. Share one secret with us – what should we go see that you haven't told people about yet?

Well, I can't tell you anything about the lineup to come, so you've got to wait for the announcements. But I can tell you that I am really excited about our opening-night film, and I think our audience will be, too, once they hear the news. ■

26% of Canadians intend to buy investment property within five years, survey says

(Bloomberg BNN)



More than a quarter of Canadians have plans to purchase an investment property in the next five years according to a new survey from Royal LePage, while high interest rates have some real estate investors thinking about selling.

The survey, conducted by Leger, found that 26% of respondents said they are likely to buy an investment property within five years. Eleven per cent of Canadians currently own an investment property, and just over half of those investors said they planned to buy another within five years.

"We know that the value of home ownership is strong among Canadians – it is clear that possessing real estate remains a desirable means for building wealth over time," Phil Soper, president and CEO of Royal LePage, said in a news release.

Interest-rate pressure

However, elevated interest rates appeared to be dampening some people's investment property outlook.

Just under one-third of residential real estate investors said they had considered selling one or more of their properties because of higher lending rates. Investors under the age of 35 were more likely to be weighing that option, at 54%.

Young property investors

Young Canadians still appear motivated to start investing in

real estate, despite well-documented challenges with the country's real estate market when it comes to high prices, steep interest rates, and low supply.

The survey found that investors aged 18 to 34 were more likely to own more than one investment property compared with those aged 35 and older.

It also found that 15% of residential real estate investors did not own their primary residence, and most of those people were in the 18-34 cohort.

"Despite the hurdles of low home supply and increased lending rates, young people are more inclined than ever to make real estate investing a part of their financial planning for the future," Soper said. "In fact, survey results tell us that many of them are actually prioritizing an investment property over owning their primary residence."

Most desirable properties

Single-family detached homes were the most popular type of investment property, the survey said, with 44% of investors owning such homes. Condominiums were the second most popular at 37%, then townhomes at 11%.

The opportunity for long-term property value appreciation was the top priority with 69% of real estate investors, followed by positive monthly cash flow, and low maintenance costs.

Nearly half of investors said their investment property is in a town they don't currently reside, at 44%. Proximity to a post-secondary institution was a factor in the decision about where to buy for 47% of investors. ■

Dividend-paying stocks a good place to be for now

INVESTING
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DIVIDENDS

Over the last 18 months, inflation has been the main concern for investors. In my opinion, it is primarily a monetary policy phenomenon, due to excess government spending, quantitative easing, and other monetary stimuli in which central banks around the world have been engaging since March of 2020.

As we all know, interest rates rose alongside inflation. Inflation has started to slow, and perhaps stabilized. We may now be at an inflection point, where central banks could be pausing the interest rate hikes.

At some point in the next couple of quarters or three, they may even start reducing rates, if economic activity slows down enough.

Equity valuations and stock prices going forward

Equity (and residential real estate) valuations are still very high. It may be a good time to wait a while for better valuations, to invest new cash in the general stock market. However, there are always compelling opportunities for individual stocks. While we wait, a good place to be is large-cap companies that pay decent dividends. The general market over the next 12 months is likely to be flat, or possibly lower.

Global Trade Credit offers risk mitigation, better access to capital – and a great sleep!



**Graham MacLachlan,
member of the board of directors
of the Receivables Insurance
Association of Canada**

Despite being the main revenue driver for his company Global Trade Credit, Graham MacLachlan never feels like he's selling anything.

"I am just providing information to educate people, so they can make an informed business decision and they can decide what is best for them."

In the case of trade credit insurance, once a business operator understands how it works, the decision is usually pretty obvious.

Trade credit insurance, also known as accounts receivable insurance, is a product that can be used as a financial instrument to give businesses greater access to capital. It also manages threats that are beyond a company's control.

"It is truly remarkable how many businesses insure pretty much everything except their receivables – despite the fact that receivables are generally a company's #1 asset.

"Trade credit insurance is the best-kept secret in business," MacLachlan says. "It can be utilized purely to mitigate risk, or as a financial instrument that helps high-growth businesses expand with stability – or both!

"A policy also expands the business's ability to grant credit – often dramatically, and grow sales – with one simple, affordable policy. Having a policy even helps you get better terms with the banks."

Diverse benefits to companies working domestically or in international markets have earned trade credit policies an interesting nickname.

"The benefits to the business are huge," says MacLachlan, who has been a leader in the international trade industry since representing the Manitoba Government in the early 1990s. "People call it 'sleep insurance' because the CEO, the shareholders, and all other stakeholders can sleep well at night, knowing that if something completely unforeseen occurs, the company is still safe. It even protects a business from the perils of non-payment."

MacLachlan's role as a broker is to ensure that Global Trade Credit customers have the policy with the best coverage for their unique needs – and at the best rates.

"Even for companies that already have a policy, a broker can be very beneficial," MacLachlan explains. "A trade credit insurance broker works much like a good lawyer, providing representation on a critical matter, and knowing what is best for you."

A good broker can save a business money in various ways, while helping access capital to facilitate high, sustainable growth.

"The cool thing is, you don't pay us a cent for all the work we do on your behalf," notes MacLachlan. "We are paid by the insurance companies once we have assisted you in finding the best fit for your business."

It's also important to note that there are cancellable and non-cancellable insurance carriers – and you likely won't know what you are working with unless you are represented by a broker.

Trade credit insurance also signals strong corporate governance; a business can use the policy to showcase professional protocols.

**"The cool thing is, you don't
pay us a cent for all the
work we do on your behalf"**

**For more information,
visit GlobalTradeCredit.ca,
or contact Graham at
gmaclachlan@globaltradecredit.ca
or 403 454 9760.**

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There are two strong possibilities as to what can happen after the central banks drop rates: one possibility is that inflation is going to come back, and things such as energy resources and gold will go up. The second possibility is that, before that happens, the market will decline, and high-quality, dividend-paying stocks will outperform the general market.

“INFLATION HAS STARTED TO SLOW, AND PERHAPS STABILIZED. WE MAY NOW BE AT AN INFLECTION POINT, WHERE CENTRAL BANKS COULD BE PAUSING THE INTEREST RATE HIKES.”

Eventually, when rates go down enough, technology stocks will come back and do really well. In the meantime, we are not there for the technology stocks yet. They had a good run this year, so perhaps it is time to take a breather on them. Our top picks are going to be more in the consumer staple area and utilities, as well as an energy stock pick for the possibility of inflation coming back down the road.

This month's stock picks

Walgreens Boots Alliance (NYSE:WBA)

Pick #1 is a familiar face from last year – Walgreens Boots Alliance. The company is still solid, long-term prospects are very good, and the stock price has gone down a lot ... so it is a more attractive opportunity to me. From time to time, earnings will not match expectations, but for long-term investors, the dip provides a better price at which to enter the stock. The dividend is over 8% at the moment and has already had a decline off its peak of some 40% or so. We don't see much downside. Certainly more upside than downside, as I see it.

Canadian Utilities (TSX:CU)

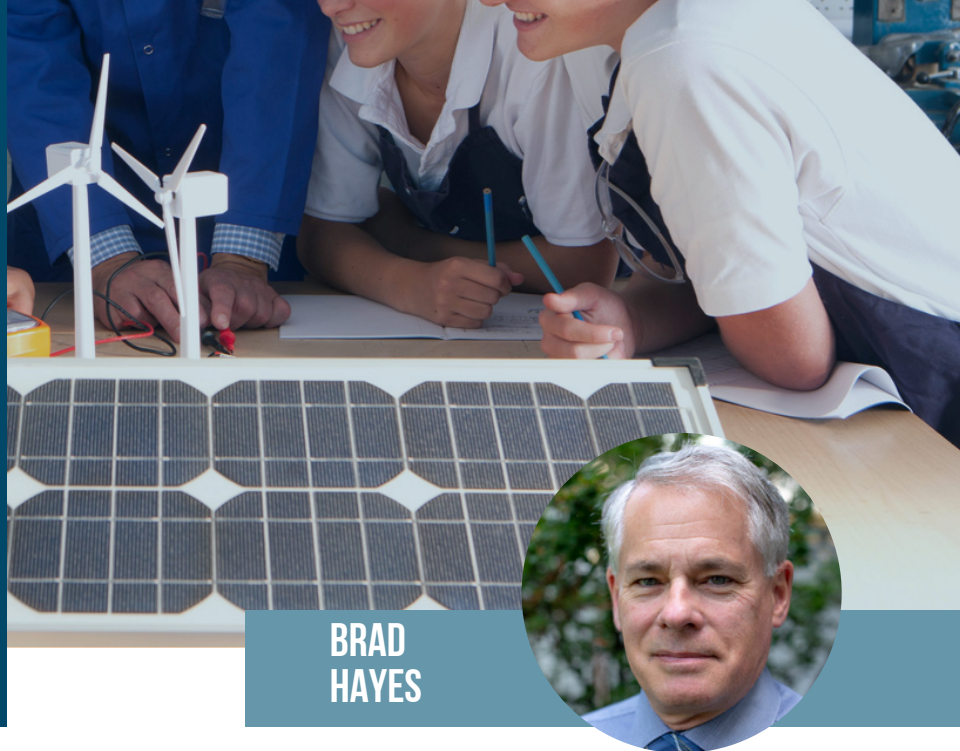
Pick #2 is a Canadian utility company, appropriately named Canadian Utilities. These sorts of companies tend to act (well, the stocks tend to act) as bond proxies, with the decline in the price over the last 12 months primarily due to rising interest rates. There is an inverse relationship between interest-rate-sensitive investments and the rate of interest. So, if rates are plateauing, down the road – maybe the next 12 months – this would be a good place to be.

Pioneer Natural Resources (NYSE:PXD)

My third stock pick is large-cap oil and gas company Pioneer Natural Resources. Its dividend yield is decent at around 7%, with the possibility of doing better if the central banks drop rates earlier. Of course, I do not have a crystal ball, but I do not believe that will be the case. However, the idea behind having diversified portfolios is that you never know exactly what is going to happen in the future. You have many different angles, and hopefully more of your stock selections succeed than fail, so you are rewarded in the long term. ■

FOR ADDITIONAL INFORMATION ON THESE RECOMMENDATIONS, A REVIEW OF YOUR PORTFOLIO, OR IF YOU HAVE ANY OTHER INVESTMENT QUESTION, EMAIL CONSTANTINE@LYCOSASSET.COM.

Canadian energy modelling flawed and futile



BRAD
HAYES

The Canada Energy Regulator (CER) recently published Canada's Energy Future 2023, Energy Supply and Demand Projections to 2050 which “explores how possible energy futures might unfold for Canadians over the long term.” The CER is a respected organization, and the report does a very good job of explaining the work that was done and the various outcomes that were generated. I enjoyed reading it (no, really) because its genesis, methodologies, and results are so clearly laid out.

What kind of reactions did the report get from interested organizations and media? Here's a sampler:

- “Energy Future 2023 aligns with what authoritative organizations like the International Energy Agency have published for years — that the global energy transition is underway and gaining momentum. The world – and Canada – are headed to net zero. The questions that remain are about the pace of that transformation, and how prepared Canada is to take advantage of the opportunities in a net-zero economy.” (Energy Future 2023 report charts inevitable global energy transformation, Pembina Institute)
- “This is a significant milestone for the Government of Canada,” says Nichole Dusyk, senior policy adviser, International Institute for Sustainable Development (IISD). As can be expected with any scenario that models ambitious global action to limit climate change, it shows declining Canadian oil and gas production.” (The Canada Energy Regulator's First 1.5 degree Scenario is an Important Milestone)
- The Globe and Mail did not attempt to analyze, but simply summarized talking points from the report: “The report ... outlines three scenarios: global net-zero, Canada net-zero and the continuation of current measures. But the agency emphasized that the scenarios aren't predictions about the future or policy recommendations but sketches of Canada's possible energy future.” (<https://www.theglobeandmail.com/business/article-canadian-electricity-demand-surge/>)

- The National Post was similarly low key and did not attempt to dig into detail: “Canada Energy Regulator chief economist Jean-Denis Charlebois told reporters the three scenarios laid out are models, not forecasts, and the regulator has not made any predictions about which is most likely to become reality.” (Canada's oil output would plummet in 2050 in a net-zero world, new modelling shows)

So Canada's Energy Future 2023 did not make a big splash – not nearly the impact the International Energy Agency's Net Zero by 2050 report did in 2021. The IEA report had a very similar mission, and was advertised as “A Roadmap for the Global Energy Sector”, even though it turned out to be hardly that (What the International Energy Agency is actually telling us).

But Canadians should not take the CER report lightly, as it was created to be an important advisory piece supporting federal government climate policy development. Federal Minister of Natural Resources Jonathan Wilkinson requested that the CER undertake scenario analysis consistent with Canada achieving net-zero emissions by 2050, including three specific tasks:

- Include fully modelled scenarios of supply and demand for all energy commodities in Canada
- Be consistent with a global context in which the world achieves its Paris Accord goal of limiting warming to 1.5°C
- Consider relevant uncertainties, including future trends in low-carbon technology and energy markets

Let's take a closer look at Canada's Energy Future 2023 to understand how it is built and what it tells us.

First, the approach: “We begin with the end goal in mind – net-zero GHG emissions in 2050 – and use our models to identify pathways to that point” (page 16). Think about that – the exercise must end at net-zero GHG emissions, with no consideration given as to whether that goal is even physically possible. CER said their approach:

“... begins with running the Energy Futures Modelling System with an initial set of assumptions. Once complete, we look at the resulting GHG emissions in 2050. If our projections do not result in net-zero emissions by 2050, we alter our hypothetical future climate policy assumptions and re-run our models. With each additional model run, we alter the policy assumptions, resulting in higher or lower GHG emissions. We repeat this process until the outcome of the model is consistent with net-zero GHG emissions by 2050.” (page 30)

This means “climate policy” is the sole determinant of outcomes. There is no consideration of real-world issues such as the time it takes to approve and build a new hydro project, or how many new wind and solar projects can actually be tied into the grid, or how the economic impacts of shutting down oil and gas production would be managed. The pre-determined end game is net zero, and the only tools we can use are policies such as carbon pricing to drive the desired behaviours that would hypothetically achieve the goal.

Models created by engineers and scientists to guide fundamental research, resource development, or project management are generally built on an entirely different premise (and climate models are built on similar principles).

For example, I can build a model of a new helium discovery by creating a computerized representation of the reservoir volume and populating it with key properties such as porosity, permeability, fluid saturations, reservoir thickness, and lateral heterogeneities and discontinuities. The values I would use are hard data and interpretations derived from wells and seismic data, and are conditioned by well-known relationships. I would apply uncertainty ranges to each parameter reflecting reasonable best- and worst-case scenarios within the constraints of the available data – e.g., could my porosity be as low as 8%? Or as high as 12%? – and I would run the modelling program hundreds or thousands of times while varying the input values to give me reasonable estimates of how much helium exists and how quickly the wells could deliver it.

Once I start producing helium from the wells, I can measure flow rates and other parameters to test my model – and I can make scientifically reasonable adjustments to my input parameters so that the model better represents the real-world outcomes – a process called history matching.

Let’s say my model indicates there are 2 million cubic metres of helium that could be produced at an expected rate of 1,000 cubic metres per day.

But my boss says, no, this discovery has to produce ten million cubic metres of helium at a rate of 10,000 cubic metres per day, because that is our target. I might be able to tweak my model to give them that forecast – but it will almost certainly be proven wrong as soon as we begin production, because I would have to assign unreasonable values to the model parameters to achieve the pre-determined outcome.

By the same logic, creating an energy model that has to meet a pre-determined outcome of net-zero emissions by varying only climate policy parameters is extremely unlikely to result in outcomes – such as amount of wind power generated or capacity of carbon storage reservoirs – that are within reasonable ranges.

Back to the CER report. It actually runs three scenarios:

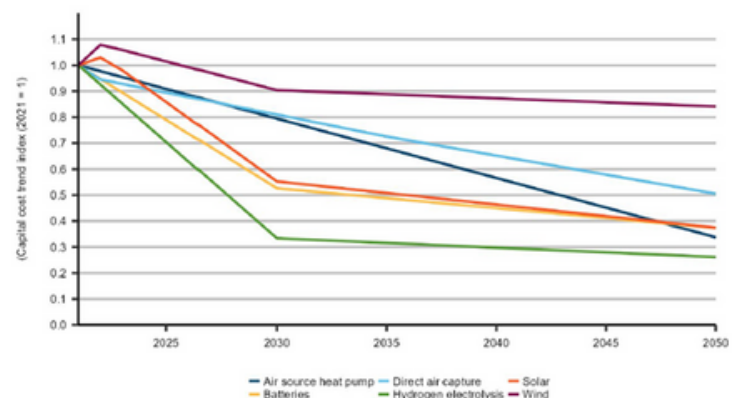
- Global Net-Zero: rapid global climate action, with Canada and the world achieving the Paris Agreement goal of limiting warming to 1.5°C.
- Canada Net-Zero: Canada reaches net-zero emissions by 2050, but the world moves less quickly.
- Current Measures: no additional measures to reduce GHGs beyond those in place today. In this scenario, CER does not target net-zero emissions by 2050.

As the Globe and Mail and National Post reporters observed, the scenarios are not meant to be predictions, but visualizations of possible energy futures for Canada under different conditions. One can argue that there is no realistic scenario included – i.e., that there are additional emissions regulations enacted before 2050, but that they do not achieve Canadian net-zero.

Let’s cut to the chase – what results do we see from CER’s models of the three scenarios? It’s a 130-page report, so I have chosen just a few examples:

1. Figure 1 shows future capital costs for selected technologies under the global net-zero scenario. Note that the costs to build “green” hydrogen electrolyzers, solar power facilities, and batteries plummet over the next seven years to 32% to 53% of today’s costs, while costs for wind power, direct air capture (DAC) of CO₂, and air-source heat pumps also fall, although less extremely.

Figure 1 – Capital cost trends for select technologies under the global net-zero scenario. All figures are taken from [Canada’s Energy Future 2023](#)



In reality, the price of solar and wind have risen in the past year. Hydrogen electrolysis is a long-established technology, so why would the price plummet so drastically in a few years? At a time when supply chains, particularly critical minerals, are threatening most renewable energy tech (Critical minerals to play major role in emerging technologies), how can we believe forecasts of dramatic cost declines?

None of these capital-cost projections is reasonable, but the modelling procedure dictates them.

2. The two net-zero scenarios rely on dated International Energy Agency (IEA) forecasts of global oil and gas demand to back their assumption that Canadian oil production will fall. Global oil demand is forecast to be 75 million barrels/day (MMBOPD) in 2030 (compared to about 100 MMBOPD today) – but IEA's recent Oil 2023 report projects 105 MMBOPD in 2028. Global natural gas demand is projected to fall 20% by 2030 in the net-zero scenarios, but in reality demand is rising steadily today, and LNG import terminals are being built rapidly in Europe and Asia to access liquefied natural gas from a growing list of exporters.

Figure 2 – GHG emissions captured and permanently stored from fossil fuel combustion and industrial processes, global and Canada net-zero scenarios.

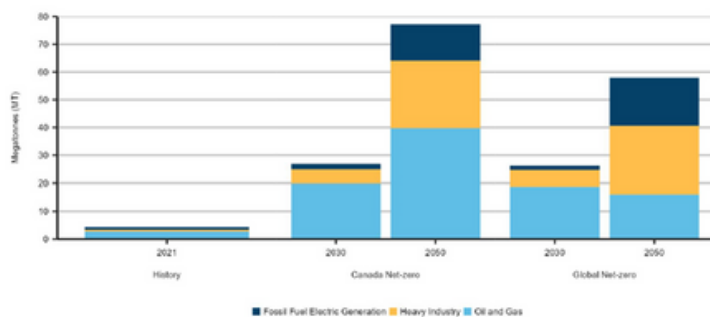
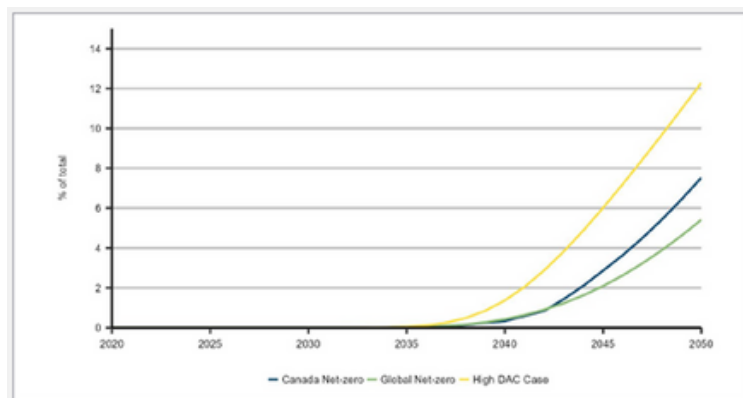


Figure 3 – Negative emissions from direct air capture, as a percentage of total GHG emissions in 2005.



3. Sequestration (storage) of CO₂ in underground reservoirs (CCS) is projected to contribute significantly to the net-zero-by-2050 equation for Canada. Figure 2 shows that about 27 megatonnes (Mt) of emissions will be captured and stored annually by 2030, and between 58 and 77 Mt annually by 2050 in the two net-zero scenarios.

Figure 3 projects that direct air capture (DAC) will capture CO₂ directly from the atmosphere after 2035, amounting to 46 Mt of CO₂ per year in the global net-zero scenario, and 55 Mt/year in the Canada net-zero scenario. Any of those volumes captured that could not be utilized to make carbon-based products such as synthetic fuels would have to be sequestered underground as well, adding to the CCS volumes.

However, Canada's two operating sequestration facilities today (Quest and Aquistore) can store less than 2 Mt/year, primarily from coal-fired generation and blue hydrogen production in Saskatchewan and Alberta. More sequestration will likely be built in these provinces by 2030.

Yet Figure 2 shows 5-6 Mt/year storage by 2030 from heavy industry, which is located in other parts of the country where CCS potential has not yet even been established – so that is not going to happen. Canada's ability to build more than 100 Mt/yr of carbon sequestration capacity over the next 27 years is highly questionable given our knowledge of potential reservoirs and regulatory issues.

These are just a few select examples – there are many more. CER modelling says these are routes to net-zero emissions and adequate energy supply by 2050. But are any of them reasonable, let alone feasible? Hard evidence suggests that none of the outcomes discussed above can reasonably be expected to happen. But remember – CER modelling is not designed to address reasonableness – it simply shows us what needs to happen to achieve net-zero goals, whether reasonable or not.

To sum up, Canada's Energy Future 2023 lays out possible pathways to Net Zero GHG emissions by 2050 in Canada, much as the IEA's Net Zero by 2050 report did globally. Both reports assume the final (net zero) outcome, then adjust inputs to show what is required to get there – as opposed to sensible modelling exercises that use reasonable distributions of inputs to test the outcomes that might reasonably be achieved from the input data.

The CER report methodology generates many highly unlikely to practically impossible situations – massive changes in energy supply and utilization without consideration of supply chain, social, economic, or technical hurdles that would be encountered. Perhaps worst of all – no certainty that security and affordability of energy supply could be maintained for all Canadians.

Canada's Energy Future 2023 is a political document to promote reduced GHG emissions. It is not a suitable foundation for creation of Canadian energy policy. ■

Senior executive Desmond O’Kell explains Enterprise Group’s winning formula



To follow excerpts from experts on our *On the Edge* podcast, you can visit the home page of [BusinessEdgeMedia.ca](https://businessedgemediacanada.com).

(BE) Today, we are speaking with Desmond O’Kell, senior VP and director of Enterprise Group Inc... Congratulations – I took a peek at the latest financials, and they are quite impressive. Do you mind providing a summary for our audience?

(DO) Yeah, it was a nice quarter. Obviously, the energy sector here in Canada that we service is at a good pace. It’s a nice change. Just short of a couple of years ago, we finished a seven-year downturn. So it’s been markedly better over the last couple of years as evidenced by our quarterly financials. This Q1 was a combination of a number of things taking place. We have some innovative equipment offerings that we brought to the market here in the last three years. It is developing some terrific momentum. We have seen two consecutive years now where our clients have been increasing their cap-ex (capital expenditure) budgets for development in the field. The more they do in the field, the more they are looking for our equipment to be on their sites.

So we had a terrific quarter. It was markedly up in revenues, margins increased, and, of course, we are publicly traded, so the measuring stick is earnings – and the earnings were terrific. We are looking forward to continuing that trend. The energy sector in Canada has been improving from about Q3 of 2021 to where we are today. If you are tracking our financials quarterly from that point, you will see it is quite the trajectory we are on.

(BE) To what do you attribute that uptake?

(DO) Well, after 2014, we had the situation where Saudi Arabia really stepped on the gas pedal and purposefully crashed prices worldwide. Those commodity prices really never repaired themselves till about two years ago. So what’s been happening is that during that seven-year downturn, our clients, the producers and service providers – we had to right-size our businesses over that down time.

Anybody who has made it out the other end is a finely tuned instrument with respect to expenditures and operating efficiency. Then when our producers start working with better commodity prices, all of a sudden their activity levels increase, they are spending more on cap-ex, and developing their field projects. Of course, when you mix higher activity levels and we are able to increase our pricing a bit, the result is higher revenues and terrific margins.

(BE) A lot of companies feel that their stock is undervalued, but I really believe that to be the case with Enterprise Group. Even just looking at the value of your assets suggests that your group of four companies should have a much higher share price. Can you just speak to that?

(DO) Yeah, it’s a combination of things. Our clients, the producers, have seen recognition in the market. Tourmaline, Canadian Natural Resources, ConocoPhillips, Shell – they have all seen their share prices accelerate over the last two years as those commodity prices improved. And their earnings were rich for the last couple of years. The services always lag – the producers get the recognition first, and the services follow. We are small-cap services, so we know the recognition will come. We think this year is going to be an inflection point for services.

But there is no doubt. I mean, if you read our financial statements and our management discussion analysis document, we outline that our equipment assets – our whole positive assets – are worth about 75 cents a share. We are currently trading in the mid \$.40s at the moment, so we are still a deep discount to true value. And that’s without any consideration for what we built up, which is a terrific business. We are leading edge on a number of different fronts in the class of equipment that we bring to clients. So we love our positioning.

Visit <https://businessedgemediacanada.com> to hear the rest of this *On the Edge* podcast with featured guest Desmond O’Kell.

Hydrogen: the ultimate path to net zero, or a whole lot of wishful thinking

BRAD
HAYES



Many people see hydrogen as a foundation of the zero-emissions energy sources envisioned for later this century.

Hydrogen burns to create energy, producing only water vapour as a combustion product. So – no carbon dioxide, the greenhouse gas produced by burning oil and gas, which so many worry about causing climate change.

Actually, water vapour is a greenhouse gas, too, but there is so much of it in the atmosphere already that burning hydrogen would make no measurable difference.

Hydrogen has been proposed as a household fuel – either on its own or blended with natural gas for heating, water heating, and cooking. Vehicles powered by hydrogen fuel cells are seen by some as preferable over battery electric vehicles – particularly heavy trucks that would need massive batteries. And hydrogen stored in underground reservoirs could act as low-emissions backup for electrical grids when other low-emissions fuels are not available.

Hydrogen is potentially so useful and versatile that many are counting on it to be a foundational energy source:

- The Government of Canada's hydrogen strategy aims to have 30% of end-use energy to be from clean hydrogen by 2050 ([Hydrogen strategy for Canada](#))
- The United States just released its National Clean Hydrogen Strategy and Roadmap ([U.S. National Clean Hydrogen Strategy and Roadmap](#))
- The United Kingdom Hydrogen Strategy is striving for 5GW of low-carbon hydrogen production capacity by 2030 ([U.K. hydrogen strategy](#))

In fact, do a Google search of “hydrogen strategy” for just about any country, state, or province, and you will find detailed notes on how hydrogen will be produced and consumed within the next few years.

But not everyone is a hydrogen fan. It takes a lot of energy to manufacture hydrogen, regardless of the method. It is not an energy source; it is actually an energy vector – it transfers energy from one place to somewhere else where it can be useful, just as electricity moves from the power plant to our homes.

Hydrogen is relatively difficult to compress and to transport, and it is not very energy dense. Hydrogen leaking from pipes and facilities is thought to combine with other gases in the atmosphere, exacerbating the greenhouse warming effect. Some people call hydrogen “hopium”; they believe hydrogen promoters are way too optimistic about the role hydrogen has to play in our energy futures.

Up until now, the holy grail of hydrogen production has been “green” hydrogen – created by electrolyzing (chemically splitting) water using low-emissions energy sources, such as electricity from wind or solar. At the other end of the emissions spectrum, “grey” hydrogen is created from natural gas with carbon dioxide as a byproduct, and so is not a low-emissions fuel. In places such as Alberta, where we already produce a lot of grey hydrogen for industrial purposes, we are capturing and sequestering (storing underground) the CO₂, thus creating a product called “blue” hydrogen, considered to be a low-emissions fuel.

Each method to manufacture hydrogen has issues. Electrolysis generally requires ultra-pure water, and in such large quantities that it would be hard to source in many areas. Carbon capture and storage to support blue hydrogen requires energy itself, and does not capture all the emissions generated throughout the process.

Can “natural” hydrogen save the day?

Some hydrogen promoters are excited about finding and producing naturally occurring hydrogen from within the earth, in much the same way that we produce natural gas – by drilling wells and collecting the gas that flows out. That would make hydrogen a true low-emissions energy source, not just an energy carrier, because we would not have to manufacture it.

Is this potential game-changer, which some call “gold” hydrogen, really on the horizon?

Natural Hydrogen Ventures ([Natural hydrogen is a cheap, always on and zero emission energy](#)) thinks so. Referencing a 2020 paper ([The occurrence and geoscience of natural hydrogen: a comprehensive view](#)), they show more than 100 locations around the world where naturally occurring hydrogen has been detected, many as surface seeps or in salt mines (Figure 1).

They enthusiastically promote the merits of natural hydrogen, claiming:

- As cheap as fossil fuels with a cost of ~\$1/kg
- 2-5x cheaper than other types of hydrogen
- Immune to volatile energy prices since it has no input costs
- “Always on” so that it can stabilize the energy grid
- Estimated to be able to meet global energy demand for thousands of years

Let’s think about these claims by applying knowledge and experience from an industry we know very well – drilling for and producing natural gas. Explorers have already applied natural gas exploration and development methods to the burgeoning helium industry, so why not for hydrogen? First, just detecting hydrogen (a hydrogen “show”) does not mean much. Every analysis of gas from the subsurface exhibits a variety of components, and examining old gas analyses for unusual helium concentrations is one way we prospect for helium. Finding hydrogen in small amounts is actually quite common; Figure 1 should have a lot more hydrogen shows from oil and gas wells in Western Canada, but whoever created the map did not examine our gas analysis databases.

Figure 1: Regions where naturally occurring hydrogen has been found.

Source: [Natural Hydrogen Ventures](#)



Hydrogen enthusiasts point out that hydrogen can be generated by a number of different processes beneath the earth’s surface – which is true, and explains a lot of the hydrogen shows.

But it is not enough just to generate some hydrogen. Just like natural gas, in order to achieve the cheap prices, reliability, and huge volumes claimed by Natural Hydrogen Ventures, natural hydrogen must occur in high concentrations in large volumes that can be delivered at high rates through wellbores.

In the parlance of oil and gas, we need high-volume reservoir rocks with excellent porosity (pore spaces within the rock) and permeability (capacity to flow fluids). Such rocks are almost always sedimentary – for example, sandstone or dolomite – as igneous and metamorphic rocks generally lack the well-connected pore spaces characteristic of good reservoirs. Oil and gas geologists have been studying reservoirs for more than a century, and have developed excellent models to understand their distribution.

Assuming we can find a large, high-quality reservoir to host the hydrogen, we then need one or more very impermeable rock layers above the reservoir to prevent the gas (hydrogen in this case) from escaping through fractures or just by seeping out slowly. Many rocks that are sufficiently impermeable to seal in oil or natural gas do not work for hydrogen or helium, because the molecules are very small and mobile, and can leak through just about anything. Usually a thick layer of salt or comparable material will do the trick, so that is something that helium explorers look for. So exploring for hydrogen is very much like exploring for natural gas (or helium) – we are looking for the same rocks in each case, but different gases within the rocks.

In sedimentary reservoir rocks, the gas found almost everywhere is natural gas (methane plus some heavier hydrocarbons), which is why a huge industry has been built around it. One can cover off the costs of drilling, pipelines, and other facilities by producing tens of millions of cubic feet of natural gas a day from a wellbore, fetching prices between \$2 and \$10 per thousand cubic feet. Helium can be produced economically in far smaller concentrations and lower volumes because it fetches a market price about 100 times that of natural gas.

But hydrogen? Industry has drilled millions of wells in sedimentary basins around the world and has found no large reservoirs full of nearly pure hydrogen. There are only traces. Where hydrogen has been detected in higher concentrations, there are no reservoirs.

Either way, there is no gold hydrogen. Green, grey, and blue hydrogen are going to have to meet the challenges of the energy transition on their own, while the pursuit of naturally occurring hydrogen should be likened to fool’s gold. ■



CHRIS
DEARMITT

Jury duty – defendant plastics

Plastics have been found guilty in the court of public opinion.

We are reminded daily that plastics are the bane of humanity, and that something must be done. We demand action at the voting booth, and we vote with our wallets when we make purchasing decisions. Politicians have acted with bag bans, and companies have created new products to replace evil plastic. It is a time to rejoice, as justice has been done. Or has it?

My wife was asked recently to do jury duty. We have all seen TV shows in which a case is tried. The prosecution presents its case and then the defence is called to present the other side. In the case of plastics, we have only heard from the prosecution so far, and the defendant has been sentenced already. Is that justice?

Justice is often symbolized by a lady holding a set of scales in her hand, with the implication that Lady Justice is weighing the evidence for each side.

Anyone who has been a parent knows the folly of listening to only one side of the story. If you consider yourself to be fair, and if you want to make wise choices to protect our environment, then I ask you to look at the evidence that has never been presented to you.

I have spent thousands of hours finding the science and reading it. The work was performed unpaid in the name of impartiality and presented to ensure that commercial interests are kept separate from the science. I ask that you spend a few minutes to see what peer-reviewed science has to say on the subject of plastics.

Rumor versus reality

We are all busy people, and we are pretty much forced to get our information online. I often glance at the headlines. That is harmless when it comes to Hollywood gossip, but not so great when it comes to important matters. That is when we need to look at hard data from professional, independent scientists.

The “prosecution” in this case alleges that plastic use is out of control. Is that true? In fact, plastics account for about 0.5% of the materials we use. Does that surprise you?

If you find it hard to believe, a quick search on Google should satisfy your skepticism. It has also been stated that the growth rate of plastics is out of control. But the facts, again, say no. The growth rate is roughly the same as other popular materials at 2-3% per year. While it is true to say that we should try to reduce our use of materials, blaming only plastics is neither logical, nor supported by facts.

If all plastics vanished tomorrow, we would remove just 0.5% of materials, and in exchange for that we would have no cars, no planes, no smartphones, no internet, no electricity to our homes, and the list goes on. Does that sound like a sensible tradeoff?

If cancelling plastics altogether is too painful, perhaps it is more reasonable to just get rid of single-use plastic. Scientists have looked into that, and it is true that replacing single-use items with more durable options is often beneficial. But that is not what people are doing now.

At present, we are banning single-use plastic bags, straws, cutlery and so on, only to replace them with paper, metal, or glass.

Is that progress? It turns out that lifecycle analyses conclude that plastic replacement results in dramatically increased harm; meaning far more carbon dioxide, 3-4 times more waste, more energy used, more toxins, and so on. There are 28 LCA studies on bags, 2 on bank notes, 2 on straws, 5 on containers, over 10 on pipes, and 5 on mailers and packages. They conclude that plastic alternatives cause more harm, and it is not even close. Wood is the only material that is sometimes greener than plastic, but wood does not work well for many popular products we use.

How many bank notes have you seen on the beach or in a river? Probably none. Why? Because small plastic objects are never dropped when they have value. The same can be said for credit cards – small, easily lost pieces of plastic could be creating a litter problem – but they are not. That is why deposit systems work so well; once an item is given monetary value, people are careful and do not toss it away.

The “prosecution” alleges that plastics are a major threat to marine animals. Does that stand up to scrutiny? When you check large, peer-reviewed studies on the causes of death for whales, turtles, and birds, it turns out that plastic is not even mentioned because it is not a significant threat – meaning that we have been misled yet again. How about the famous “turtle with a plastic straw up its nose”? There is zero proof that it was even plastic, or that it was a straw. The Internet is obviously well known for spreading false stories and manipulating people.

We have been told that the oceans contain huge floating islands of plastic – the so-called gyres. Oceanographers have searched for years for such “islands” of plastic with no success. Gyres are just areas with more small pieces of debris than in the rest of the ocean.



Plastic alternatives cost more, too, so we are wasting our money only to increase harm, all the while feeling righteous about it. It turns out that we have unintentionally increased harm by following our gut without looking at the consequences.

Pretending to be green is easy – just prance around in public swinging a cotton bag – but if we want to actually be helpful, we need to get the facts straight before acting.

Plastics have been blamed for litter as well, but scientific studies – and logic – indicate that human behaviour causes litter, so blaming materials and/or the manufacturers is unhelpful.

Back to the bank notes, did you know that 8 billion plastic bank notes have been printed annually for decades? That’s one per person on the planet every year.

Another allegation is that plastics are bad because they do not degrade. That is false, for two reasons. First, lifecycle analysis shows that short-lived materials are often less green than durable materials. Second, it turns out that plastics are prone to degradation, and they degrade more quickly than most materials such as concrete, glass, ceramics, and metal.

Plastics are only stable enough to use because of stabilizers that are added to prevent degradation. Billions of dollars are spent to stabilize plastics, and we can be certain that money would not be spent if plastics really were stable enough without them. Once again, we find that the “prosecution” is making accusations that would be classified as hearsay and inadmissible in a court of law, because they lack any evidentiary support. Items like bags contain very little stabilizer and disintegrate in under a year outdoors, whereas plastic pipes are designed to last decades, so more stabilizer is added.

Last, we need to address the infamous microplastics topic. We have been told that plastics are bad because they break down into small particles. That sounds scary until you stop and think for a moment. Are plastics really unique in that regard? Boulders break down into rocks, then gravel, then sand, then dust. Metals corrode and form rust particles. Glass shatters and crumbles. Wood rots, creating sawdust. Clearly, plastics are not unique in forming particles because all solids do that. We have a word for microscopic solid particles, and that word is “dust”, but the “prosecution” has cleverly created a new word “microplastic” to make plastic dust sound alien and dangerous.

Putting aside the choice of words, is it fair to say that microplastics – i.e. plastic dust – is dangerous? Hundreds of studies have been conducted, and there is no credible evidence of harm. That should come as no surprise because the majority of plastic and plastic dust is PE, PP, PET, and other plastics that are so safe that we eat our food from containers made from them. They are safety tested and FDA approved for that purpose.

There are some scientific papers claiming that microplastics cause harm, but when we examine those more closely, we find that they are junk largely science. For example, a World Wildlife Fund-sponsored study that claimed we eat up to a credit card of plastic per week was soundly disproven by a newer independent study that showed that it would take over 20 000 years to ingest that much plastic. Plastics make up just 0.03% of dust and 0.001% of particles we ingest.

Clearly, we have been misled by innuendo and hearsay, so who is the “prosecution”? How are they funded, and what are their motives? Several of the so-called “environmental groups” have been caught spreading misinformation, and they refuse to correct it even when the evidence shows that they were wrong. This may indicate that their true motives lie not with the environment, but with their own bank accounts. They have transformed “environmentalism” into a multibillion-dollar industry with incredible power and resources. It is very telling that Dr. Patrick Moore, former president of Greenpeace, left in disgust and publicly stated that the organization had abandoned science in favour of spreading fiction for profit.

Of course, this corruption would not have been effective had the media checked the facts and exposed the truth. In the vast majority of cases, the news media just parrot the misinformation without any attempt to fact-check. In the rare instances when they do fact-check and expose false claims, few pay attention because the lies are more exciting than the truth. A prime example is the claim that there will be more plastic than fish in the ocean by 2050. That has been debunked, but much of the public does not realize it, and the claim has still not been retracted by the so-called environmental group that made it.

The reason that you have not seen the real scientific evidence before is that the people charged with finding it and showing it to you have not done their jobs. The plastics industry does have trade associations, but many of them have not taken their roles seriously. They were only too happy to collect membership dues, but not so keen to deliver value and provide rebuttals to the barrage of baseless accusations. Their members have expressed disappointment, frustration, and anger to me.

Even though we hear people asking for the removal of plastics, no one is doing it because that would mean huge personal sacrifices. Despite years of constant attacks and false allegations, we have witnessed no change in plastic sales. As mentioned previously, sales continue to grow at 2-3% like other popular materials.

One would think that actions such as bag bans would have affected sales, but numerous sources have told me that such bans actually resulted in increased plastic sales because people went out and bought thick plastic trash can liners when they could no longer simply reuse their grocery bags made of much thinner plastic. Such bans are being reversed when the politicians finally check the science, and it becomes apparent that they increased harm due. Politicians are left with egg on their faces because they did not, for example, do a simple Google search of “LCA bag”.

Conclusions

It is human nature to believe the first version of a story we are told, and it takes real mental effort to look at new evidence that contradicts what we know. Most people will not make that effort, and that is a pity because our future depends on people caring enough to take their “jury duty” seriously. Most of us have convicted the defendant before hearing the defence’s argument, but we must reconsider now that we know that the prosecution presented hearsay and fiction instead of real evidence.

We have been manipulated and exploited into making choices scientifically certain to increase harm to the environment. Do you enjoy being tricked? I do not. As a scientist, I prefer that we make sound choices based on solid evidence. As a parent, I prefer that my children are taught facts, not lies, at school.

Remember, science tells us – you can be for the environment, or against plastics, but not both.

Further reading

The scientific evidence to support every statement can be in The Great Plastics Distraction video <https://youtu.be/B9-MPJoSBC0> and at plasticsparadox.com where The Plastics Paradox books can be downloaded for free in several languages. Also see <https://phantomplastics.com/carbon-dioxide-created-and-saved-by-using-plastics/>, <https://phantomplastics.com/environmental-degradation-of-plastics/>, <https://phantomplastics.com/more-plastic-than-fish-in-the-ocean-by-2050-true-or-false/> ■

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Wouldn't it be cool if that company kept its membership fees **affordable**?

big-media.ca 

You are welcome!



Disastrous Online News Act could be a boon to your brain

ROB DRISCOLL
BUSINESS EDGE MEDIA

It seems that a lot of people are worried that Canada's Online News Act (Bill C-18), which went into effect in June, will make it more difficult for Canadians to find out what is going on in the world.

But the truth is, if Meta, Google, and other big players prevent you from reading content produced by Canadian news agencies, in almost all cases the tech firms will be doing you a huge favour.

In recent years, most Canadian news organizations have misled people on the big issues... unless you think sports is a big issue; their reporting of sports scores is actually quite accurate. Oh, and they are fairly precise on the obituaries. Almost all people that they report to have passed away are, in fact, deceased.

However, they have been dead wrong on such things as COVID-19, climate change, and energy transition.

Why on Google Earth would the tech giants be forced to share their profits with news companies that would not know the truth if it walked up and slapped them in the Facebook.

The mainstream Canadian news organizations have sold their souls to one or more of the Unholy Trinity of Media Demons:

- Pressure to please advertisers in order to increase revenue, which leads to sensationalism and shock journalism designed to maximize audience size rather than audience intelligence.
- Executives/managers/owners picking sides politically and on hot-button issues.
- Government funding that ensures partisan publishing and terrible journalism (i.e., the government props up organizations whose lack of meaningful content should have seen them go the way of the dodo bird long ago).

Speaking of dodos, if you think that your favourite Canadian news source has been accurate on the most important matters in recent years, please comment below and I will be glad to provide proof to the contrary.

Back to the Online News Act, Peter Menzies, senior fellow at the Macdonald-Laurier Institute and former vice chairman/president with the Canadian Radio-television and Telecommunications Commission (CRTC), put it well last week:

"Canada's efforts to 'defend democracy,' as Prime Minister Justin Trudeau put it, have turned out to be a counterproductive fiasco. The government hoped the Online News Act would salvage a struggling legacy news industry and become a model to be copied globally. But it is the most spectacular legislative failure in Canada's living political memory."

The flaws in the act are many and massive, as Menzies explained in his article (<https://macdonaldlaurier.ca/canadas-online-media-legislation-hits-the-buffers-peter-menzies-in-the-national-review/>).

Making Big Tech pay Canadian media organizations for links to their generally awful news coverage is akin to forcing Walmart to pay me for singing in their parking lot. The quality of my singing is certainly comparable to the quality of most Canadian news content – <https://www.youtube.com/watch?v=Cfem7JlyO7Q> – and Walmart's high traffic would be exposed to my work, just as Canadian mainstream news has been appearing on Google, Facebook, etc.

No one knows how thoroughly and for how long Canadian news will disappear from the dominant digital feeds as a result of the Online News Act, but you will actually benefit from this development – as long as you know where to turn for accurate, high-integrity news coverage.

To assist you with this crucial task, I have performed exhaustive research in compiling a comprehensive list of Canadian news organizations that have provided accurate news coverage in recent years. The list of all such media companies is as follows:

1. Business Edge News Magazine – BusinessEdgeMedia.ca

2. BIG Media Ltd. – BIG-Media.ca

You are welcome. ■

Flight of fancy — taking the “class” out of business class

ROB
DRISCOLL



As a father of 7 in the media industry (but, sigh, not Google, Meta, or Amazon), I do not fly on airplanes often. And when I do, it is generally the randomly chosen middle seat — perfect for my long legs

— in row 32. However, last week, through a stroke of luck and a very generous person, I was given the opportunity to fly business class. What a treat!

My opulent experience started well before liftoff. With my sponsored flight came access to a magical land known as the Air Canada Lounge. I seriously doubt that even bursting through St. Peter's Gate would reveal a place so incredible.

Perpetual prosecco, bottomless beer, refillable rum — I showed up early so that I had time to consume substantial volumes but still be able to walk a straight line to the boarding area.

Then it was on to the food — unlimited lettuce with more fixings than the sport of boxing in the 1980s, fill-your-boots butter chicken, a burger-bar binge ... I ate more in one day than I usually do in a week — all without a single trip to the vomitorium. I felt like a Roman emperor without the toga.

I bet the friendly gentleman in Air Canada garb would have fed me grapes while I reclined had I asked, but I did not want to be greedy. As I neared the point of requiring a wheelbarrow to get me to the gate, I made an essential visit to the lavatory. I knew there would be a gourmet meal on the flight, and ... I will leave it there as I still try to heed my mother's command to avoid potty talk, especially in a public forum.

As soon as I got to the gate and before I had a chance to see if I could still fit between two armrests, a sweet female voice on the intercom invited Zone 1 passengers (aka business class) to board. Stand aside women, children, and all other schmucks flying economy, this was MY turn to shine.

I did not point and laugh from my large seat as the commoners filed past, but I am sure they noticed the telling smile of an extremely wealthy and important business person. Nobody would be able to tell that it is actually quite difficult to amass a fortune when you run a news company that in order to preserve editorial objectivity does not accept advertising, sponsorship, or government funding.

Before blastoff, a flight attendant handed me a hot towel. I promptly washed my face and armpits (the meat sweats were real, and it was a workout getting to the gate on time), and handed the towel back to the gentleman, who, as an added touch of class, donned special blue gloves to receive my towel.

I waited patiently until three seconds after the delightful ring that comes as the seatbelt light is turned off to order my next free drink. "Double Johnnie Walker, neat ... please and thanks!"

"I could get used to this," I thought to myself on repeat.

As the attendant approached, I rushed to pull out my table, magically located in the armrest.

My business partner Kelly chuckled as I fumbled to snap the table into place. "I've got this!" I said, using the brute force of a man who lifts weights at least three times a year to lock the table into position.

Within 10 seconds and only a few grunts, we heard a loud "SNAP" as the table locked into place.

"Ha – I did it!" I said to Kelly with a level of pride reminiscent of her cat's most recent rodent retrieval.

"Ummm," replied Kelly. "I don't think it was designed to do that."

Further inspection and a glance to our neighbours to the right told us that the left edge of the table was actually supposed to balance loosely on my left armrest.

Oh, and that "SNAP" was actually the sound of the metal support mechanism breaking. Oopsie.

"You broke the plane!" Kelly said.

"Not the whole plane," I defended. "And the table still kind of works if I hold it in place with my right hand."

"You broke the plane. Are you going to confess?"

"Confess to what?" I protested. "It still works. Kind of."

"Take your hand off it," she said.

I grabbed my quickly disappearing scotch in my left hand and released my right hand from the table ... which promptly fell to the floor, revealing a clean break of the support mechanism.

"Oopsie. Hmmm, you might be right," I said as I put the table back in its proper position. The good news was that a busted tray table fits very easily back into the armrest.

Midway through the 4.5-hour flight, I held the tray in place while I enjoyed another excellent meal. Using my left hand actually allows me to savour the tastes more thoroughly.

When the captain announced that it was time to prepare for landing, I asked Kelly for help with a moral dilemma that was causing me great anguish.

"Do I let a flight attendant know that I broke the plane?"

"They probably have about 300 trays at the airport, and I am sure it is an easy fix," Kelly contended.

"But what if they don't notice it, and a legit business traveller – not an imposter like me – has to hold the tray while he eats and drinks?" I countered.

"Good point," she said. "You should come clean."

"But it might cause a major disembarking backlog if we interrupt the 'bu-byes' with an arguably not-so-urgent mechanical problem. What a quandary!"

As the plane touched down, we decided that the best course of action was to leave the plane and then tell an Air Canada employee at the gate that I broke the plane, "perhaps in different words," Kelly recommended.

As soon as we exited the tunnel and reached the gate, I made my confession to a cheery gentleman in an Air Canada uniform.

It was way less stressful than my last trip to the confessional at St. James Church more than four decades ago.

Despite a full admission that the tray table was "like really broken," he absolved me of my sins and said that there would be no lifetime ban from Air Canada flights.

I promised to be more careful if I should ever again be granted a privileged flight experience.

Kelly could not help herself. "You truly take the class out of business class."

Class dismissed. ■



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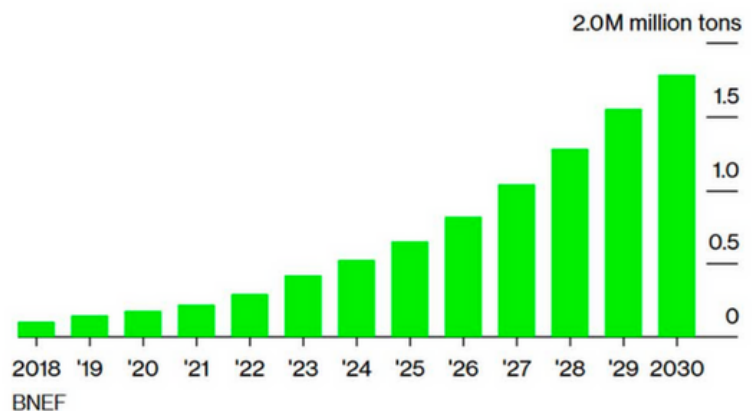
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