May 2023

ENGINEERS GEOSCIENTISTS New Brunswick
INGÉNIEURS GÉOSCIENTIFIQUES Nouveau-Brunswick

ENGEOActions

THE NEW BRUNSWICK SOURCE FOR ENGINEERING AND GEOSCIENCE NEWS

AGM & PROFESSIONAL DEVELOPMENT SESSIONS

Sharing the highlights of our 2023 professional development sessions and our 2022 Annual General Meeting.

AN INTERVIEW WITH THE CHIEF FIRE PREVENTION OFFICER ON BEST PRACTICES WHEN SUBMITTING DESIGNS

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[2] To be eligible for the offer of $50,000 of additional Term Life coverage at no extra cost for up to two years, Members must meet the Engineers Canada-sponsored Term Life eligibility requirements: be aged 18 to 65; be applying for Engineers Canada-sponsored Term Life Insurance for the first time without having previously been declined for Term Life coverage by Manulife; be applying and approved for $25,000 of Term Life coverage or more. Available to Members only (not available on Spousal coverage). For complete details, see manulife.ca/newmember.
[3] Odds of winning depend upon the number of eligible Entries received. Limit one (1) Entry per entrant. Total of twelve (12) Prizes available. Winner(s) will receive an Apple® Gift Card valued at approximately CAD $750. Correctly answered skill-testing question required. No purchase necessary. Contest closes February 29th, 2024 at 11:59 PM Eastern Time (ET). See full contest rules at manulife.ca/rules75.

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ENGEOActions

Editor / Design and Layout
Lauren Nicholson, Director of Communications
Copywriting
Jocelyne LeGresley, Administrative Assistant
Translation
Bourret Translation Inc.

Contributors

Raphaël Roy, ing.
Michelle Paul Elias, P.Eng., FEC, FGC (Hon.)
Holly Young, P.Eng., FEC
Marlo Rose, P.Eng., FEC
Matthew Alexander, P.Geo., FGC
Lia Daborn, CAE
Christa Bedwin
Conor O'Neill, P.Eng.
Holly Ayles
Port Saint John
Captain Pavlo Besedin, P.Eng.
Brad McPherson, P.Eng.
Michael Mallery
Lauren Nicholson
McMillan Vantage
Kathy Baig, MBA, FIC, ing., DHC
Stéphanie Doucet-Landry, MBA, P.Eng., FEC

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Raphaël Roy, ing.
Vice-President
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Andrea Stierle-MacNeill
Past President
Michelle Paul-Elias, P.Eng., FEC

APEGNB Staff

Chief Executive Officer and Registrar
Lia Daborn, CAE
Director of Communications
Lauren Nicholson
Administrative Assistant
Jocelyne LeGresley
Director of Registration
Stamatia Baker, FEC (Hon.), FGC (Hon.)
Registration Coordinator
Holly Ayles
Registration Assistants
Jacqueline Seely
Natasha Toedter
Director of Finance and Administration
Jocelyn Durette, CPA, CA
Director of Professional Affairs
Stéphanie Doucet-Landry, MBA, P.Eng., FEC

info@apegnb.com | www.apegnb.com

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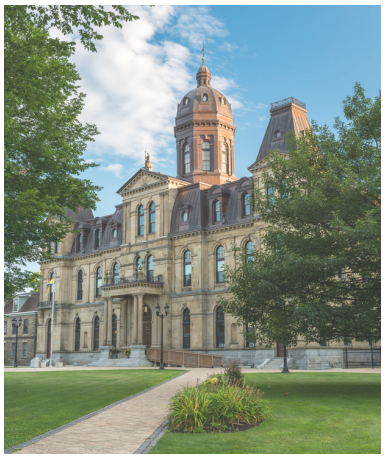
Please address all editorial inquires to APEGNB by emailing info@apegnb.com.



Message from the President

I appreciate the opportunity to address you as APEGNB's new president. I'm excited and honoured to serve in this capacity and I look forward to the year ahead in this role.

Being sworn in as part of APEGNB's 2023 council – and being able to do that in-person at this year's annual meeting – was humbling. This marked the first opportunity we have had in a several years to be able to meet in person and celebrate what we do in our professions.

For those who joined us online that day - thank you! Hosting a hybrid event allowed for APEGNB's registrants to be engaged in our governance process even if they weren't in the same room.

This evolution to a hybrid event also broadened what was possible for professional development sessions because virtual presenters along with in-person ones could be incorporated in this year's agenda with members choosing to sit in on some panel sessions or join online. I hope you found the sessions and panels as diverse and comprehensive as I did.

A highlight of this year's event was an in-person awards ceremony to celebrate the successes of several of our outstanding registrants. It is important to celebrate those who deserve to be recognized as considerable contributors to our practice as engineers and geoscientists.

This is a period of change within the Association, and I am excited for what the future has in store. We operate in a professional and transparent manner in all that we do. We continue to work with government officials and ensure that our voices are heard when it comes to legislative changes that impact our industries.

As membership continues to grow, we need to ensure that appropriate resources are in place that will support and manage that growth. We need to look at options regarding our Continuing Professional Development (CPD) program. In particular, facilitating the knowledge transfer from our retired (or semi-retired) members to the new generation of professionals.

With that, the importance of having mentors and volunteers who can share this knowledge and expertise is crucial. The need for this talent is essential for the improvement and maintenance of APEGNB's many committees. I encourage you, if this is of interest and you feel as if you have the time and talent to give, to contact the Association directly, or perhaps get involved with your local branch. The support of our registrants helps us to continue to pursue our mandate of regulatory excellence.

Raphaël Roy, P.Eng.

Professional Engineers and Geoscientists have a big responsibility as we have the ability to influence the lives of hundreds, thousands, millions, or even billions of people with just one project. I very much appreciate that I have the confidence of our registrants to be able to serve in this capacity and serve the organization according to its mission which is to protect the public .

That said, our work is not done as we look to the future of our professions. I'm asking you as registrants to consider how you may be able to support the initiatives of your Association. Your time and talents are valuable, and we would welcome hearing from you.

Raphael Roy

RAPHAËL ROY, P.ENG.
President, APEGNB
president@apegnb.com

Message from the CEO and Registrar

APEGNB's mandate is to protect the public interest. This is done through enforcement of the Act and bylaws. Such regulation is done in two ways.

1. We regulate the professions by ensuring that applicants are competent and have demonstrated education and experience in their field of choice. The Board of Admissions, Experience Review and Examinations Committees oversee the applications. The Internship Committee also supports this work through review of logbooks detailing work experience, or using the Competency-Based Assessment process. Details on the structures of each committee are found on our website. Ultimately, the Board of Admissions is responsible for the final approval of all admission matters. Only those who have been deemed to meet the requirements, will receive a designation and right to practice engineering or geoscience.
2. Enforcement of title and the right to practice the professions: Only those who have been granted permission to practice engineering or geoscience, may do so. Additionally, only those permitted by APEGNB, may use a professional seal, or employ the terms 'engineer' or 'geoscientist', or any form thereof. Anyone who does so without a licence, commits an offence.

Enforcement of these requirements means that those individuals who have been struck from the Register for not meeting their annual obligations, are not permitted to practice engineering or geoscience, or to use the title in New Brunswick. A list of former members who have been struck from the Register, is published on the APEGNB website and updated regularly.

Everyone, whether a member of APEGNB or a member of the public, is encouraged to confirm the license status of any individual engaged to perform engineering or geoscience work in the province as this is important for public safety.

Through the annual renewal process for 2023, APEGNB staff have diligently followed up on all members who have not met their obligations of payment of annual dues or completion of CPD requirements for the previous year. Those who have been struck from the Register, have been contacted directly and employers have also been advised that their employees are not permitted to practice engineering or geoscience.

The regulatory role also applies to companies who hold (or should hold) a Certificate of Authorization to practice the Professions in or for application in New Brunswick.

Lia Daborn, CAE

All holders of Certificates of Authorization have also been contacted if they did not renew, to confirm their intent to not work in New Brunswick in 2023.

The Office of the Registrar has also received several messages regarding companies using the variation of the word 'engineering' in their title, or a job advertisement that references 'engineer' without acknowledgement of the requirement to be licensed with APEGNB. These cases result in correspondence to the company to advise that the term 'engineer' is a protected title and can only be used by a company or individual registered with APEGNB. So far, the companies have complied and modified their advertising and websites, but if they do not, we would pursue a legal path to enforce the use of title.

We have also been working with the Department of Natural Resources to confirm that companies with active exploration or mineral claims in the province, are licensed with APEGNB as well. Our strong relationship with Service New Brunswick's Corporate Registry Office ensures that the government department confirms with APEGNB prior to approving any company name with any of our protected terms in the name.

If you come across any company or individual who is performing work that would be considered engineering or geoscience in New Brunswick, make sure that you confirm their license status on the APEGNB Public Registry. If they are not listed there, please let us know so that we can properly register them and ensure that they are meeting all of the rules and standards that we enforce. Our regulation is only as strong as the information we receive but as a self-regulated professional, you also have a duty to report any illegal or unethical practices by engineers / geoscientists or others.

It is only through the diligence of our members that we are able to protect public safety and ensure the integrity of the professions we regulate.

Lia Daborn
LIA DABORN, CAE

CEO and Registrar, APEGNB
lia@apegnb.com

2022 ANNUAL MEETING AND PROFESSIONAL DEVELOPMENT SESSIONS

The regulatory by-laws under the *Engineering and Geoscience Professions Act* require that the annual general meeting of the Association of Professional Engineers and Geoscientists of New Brunswick be held in the first six months following the fiscal year, so it is customarily held the third week of February.

After two years of virtual annual meetings, we were delighted to again offer the usual in-person events, which included two in-person panel discussions on Friday, February 17, followed by an Awards and Recognition Luncheon and the annual general meeting on Friday afternoon. In addition, we offered virtual attendance for six professional development sessions that same week, as well as an online option to participate in the annual meeting.

103rd Annual General Meeting
The 103rd Annual General Meeting was called to order and 104 in-person and 86 virtual attendees were in attendance. The business of the meeting included:

- Minutes from the 2021 annual meeting and any business that arose from that meeting
- Messages and greetings from the President, CEO, and our national bodies.
- Audited financial statements
- Reports from our committees and branches
- 2023 election results
- Installation of New Council

APEGNB engaged ClearPicture, an independent third party to conduct the 2023 Council elections. It was reported that 704 ballots were submitted out of the 3,649 invitees, giving an overall participation voting percentage of 19%.

President (1 year term).....Raphaël Roy, P.Eng.
Vice-President (1 year term).....Holly Young, P.Eng., FEC
Past President (1 year term).....Michelle Paul-Elias, P.Eng., FEC

Councillors (2 year term - *District representatives may be re-elected for a second and third term but are not eligible for a further term until at least two years have elapsed since the expiry of the previous term.*)

- Tammy Lamey, P.Eng. FREDERICTON
- Karine Savoie, P.Eng. NORTHWESTERN
- Bill Woodhouse P.Eng. SAINT JOHN
- Michelle Roy, P.Eng. NORTHEASTERN
- Jérémie Aubé, P.Eng. MONCTON
- Adrian Davis, P.Geo. GEOSCIENCE COUNCILLOR
- Shawn Amberman P.Eng. COUNCILLOR-AT-LARGE
- Kevin Kilfoil, P.Eng. COUNCILLOR-AT-LARGE

Public Representatives (2 year term)
- Andrea Stierle-MacNeil
- Marie-Claude Doucet, LLB, MBA

Appointment to National Organizations
- Marlo Rose, P.Eng., FEC, Director, Engineers Canada
- Matthew Alexander, P.Geo., FGC, Director, Geoscientists Canada





2022 Annual Meeting and Professional development sessions

Highlights from our in-person sessions and the Annual General Meeting






2023 APEGNB AWARDS AND RECOGNITION

Recipients of the 2023 APEGNB Awards

C.C. Kirby Award - Jean Boudreau, P.Eng., FEC.
Given in recognition of outstanding service or contribution to both the engineering profession and the province of New Brunswick. The Kirby Award is the most prestigious award a professional engineer can receive from the Association.

Jean Boudreau, P.Eng., graduated in 1983 with a bachelor's degree in Civil Engineering from the University of New Brunswick. Now, a senior consultant at GEMTEC Limited, she has almost 40 years' experience in civil engineering, highway planning and design, and civil construction projects, with the largest portion of her work over the last twenty-five years comprised of highway and hydraulic structures design projects.

One of her most noteworthy accomplishments to date, has been her tenure as president of Engineers Canada, specifically during 2020 in the beginning and early months of the global pandemic. While recognizing it was not a "typical" year to serve as President, she was able to adapt to the ever-changing landscape and through the power of technology remain present at all meetings and continue to be an advocate for her profession.

Of special note, since the inception of the C.C. Kirby award in 1974, it has not been awarded to a female...until this year.

L.W. Bailey Award - Michael Parkhill, P.Geo., FGC
Given in recognition of outstanding service or contribution to both the geoscience profession and the province of New Brunswick. The L.W. Bailey Award is the most prestigious award a professional geoscientist can receive from the Association.

Michael Parkhill, P.Geo., graduated from UNB with a BSc. in Geology in 1985 and immediately was hired as a Quaternary Geologist for the Geological Surveys Branch of the New Brunswick Department of Natural Resources in Bathurst, where he is still employed.

During his 37-year career as a Professional Geoscientist, he has been an instrumental contributor to the geology and mineral resources of northern New Brunswick.

Over the years he has been recognized by his peers in receiving numerous awards for his research and dedication to the profession. He was elected as President of Geoscientists Canada in 2020, and despite the challenges that were met by the global pandemic, he took it in stride and managed to carve out many accomplishments during his service at the national level.

Jean Boudreau, P.Eng., FEC, winner of the 2023 C.C. Kirby award. Pictured with Jean is her father, Brian Barnes, P.Eng.,FEC who was president of APEGNB in 2004.

Congratulations to Michael Parkhill P.Geo., FGC (right) on receiving the L.W. Bailey award. He is shown here with Geoscientists Canada president Yuri Kinakin, P.Geo. (left).

2023 APEGNB AWARDS AND RECOGNITION

The following members received other APEGNB awards of recognition.

Longstanding volunteer award for 15 years of service:

- Francis (Frank) Collins, P.Eng., FEC
- David Coleman, P.Eng., FEC

Life Members
APEGNB Life Members have paid their dues to the Association for 35 years and were elected to life membership by a majority vote of Council.

The following members received a life member recognition:

Hugh Astle
Fernand Babin
David Beattie
Gordon Boneschansker
Charles Boudreau
David Burpee
Laurie Coles
William Cooper
Robert Daigle
David Francis
Yves Gagnon
David Galloway
Bruce Gault
Michael Gillis
Daniel Grandmaison
Leonard Green
Paul Haddon
Wayne Johnston
David LeBlanc
Frederick Mann
Darrell Manuel
David McAllister
Margaret McKay
David McLaughlin
Todd McQuinn
Eric Murray
Bruce Pearson
Joseph Robichaud
Garrett Safford
Robert Sheasgreen
Greg Snyder
John Stevens
Gary Underhill
Deborah VanSlyke
Stephen Young

Carol MacQuarrie, P.Eng. (left) receives her Fellowship of Engineers Canada designation from Engineers Canada Director, Marlo Rose, P.Eng., FEC.

Fellow of Engineers Canada (FEC)
The following members received a certificate of fellowship and the privilege of using the designation Fellow of Engineers Canada (FEC) upon recommendation from APEGNB in honour of exceptional contributions to the engineering profession.

Michael Gorman, P.Eng. : Michael has served on the Legislation Committee for the past 10 years.

Carol MacQuarrie, P.Eng. : Carol recently retired from APEGNB in the summer of 2022 after serving for six years as the Director of Professional Affairs and Registrar with APEGNB.

George Filliter, LL.B, KC. was recognized with an honorary Fellowship of Engineers Canada, which is presented to non-engineers in recognition of their support of the profession over a long period of time. He served on APEGNB Council from 2010-2016 and was a public member of the discipline committee for many years. His contributions were invaluable and greatly benefited the organization.

Fellow of Geoscientists Canada (FGC)
Two honorary fellowships were presented to non-geoscientists in recognition of their support of the geoscience professions throughout the years.

- Dallas Davis, P.Eng.
- Michelle Paul-Elias, P.Eng., FEC

Geoscientists Canada Fellowship
The FGC honours individuals who have given noteworthy service to the geoscience profession, through service to Geoscientists Canada, service to one of the provincial and territorial regulatory bodies that are the constituent associations of Geoscientists Canada, or service in another capacity.

- **Toon Pronk, P.Geo.** was recognized with an FGC distinction.

Help Design the Future of your Profession

APEGNB COMMITTEES ARE LOOKING FOR YOU!

As a volunteer, you are a key part of the self-regulation of engineering and geoscience.

Are you interested in ensuring only qualified applicants become members? Do you want to mentor and share your expertise with fellow registrants? Do you believe in the importance of being a role model for the next generation? If you said yes to any of the above, we have volunteer opportunities for you.

Learn more

For the terms of reference & a complete list of our committees, please visit:

www.apegnb.com

OR CONTACT US : 1-888-458-8083 | INFO@APEGNB.COM

Best practices when submitting designs and plans

LAUREN NICHOLSON,
DIRECTOR OF COMMUNICATIONS, APEGNB

When it comes to receiving plans and design drawings, Chief Fire Prevention Officer Michael Mallery has seen a couple of alarming trends as of late.

"We're seeing drawings that come in that are stamped by an engineer but they are architectural in nature. Typically, we wouldn't get too wrapped up in that but what we have concerns that these drawings appear to be outside of the professional's scope of expertise," he explained.

Mallery works as the Chief Fire Prevention Officer at the Office of the Fire Marshal (OFM) within the New Brunswick Justice and Public Safety department. In this provincial role, the office is responsible for plans review under Section 18 of the *Fire Prevention Act* . He explained that typically his office would not be concerned about enforcing private acts, however recently, he has seen a spike in the number of drawings coming into his office where it appears that the professional who submitted them, is performing work that is outside of their scope of practice.

"We act as a review authority and we are that last set of eyes to look at plans or drawings to ensure that the professional hasn't missed anything," he explained. "Lately, we have found ourselves working with the designer and the owner where efficiencies were not addressed properly and, in some cases, what was submitted potentially made the situation worse."

In order to prevent potential disciplinary action or filed complaints, Mallery offers three tips when submitting drawings to the OFM :

1. Understand your roles and responsibilities as a professional. Stay within your scope of practice and do not submit documents that are outside your area of expertise.
2. If you are working on a larger project, plan a design development meeting with the Office of the Fire Marshal to ensure that there are no major items missed, before you're too far into the design. Together, you can work it out before anything becomes an issue.
3. Know the codes and standards. Understand that as a professional you should be aware of National codes and Acts that are applicable to your work. If you are not sure, you could ask a peer or colleague or, if necessary, call the Office of the Fire Marshal.

By following this simple advice, it is the hope of Mallery that these concerning trends the Office is seeing are kept to a minimum and that ultimately the public's best interest is protected.

Welcome!

Stéphanie Doucet-Landry, P.Eng., FEC

Director of Professional Affairs, APEGNB

Stéphanie Doucet-Landry, P.Eng., MBA, FEC, is a civil engineer with over 18 years experience in the private, municipal and provincial sectors including municipal and transportation engineering, and solid waste management. In February 2023, she joined the staff at the Association of Professional Engineers and Geoscientists New Brunswick (APEGNB) as Director of Professional Affairs. She holds a Bachelor of Applied Science in Civil Engineering (2000) and an MBA (2010) from the Université de Moncton.

Stéphanie currently lives in the Bathurst area with her husband Philippe and their twins Gaëlle and Raphaëlle. In addition to being a devoted employee and mother, Stéphanie takes time to give back to her profession and community. She has participated as a volunteer on several APEGNB committees since 2009. In fact, in 2019 she was named Fellow of Engineers Canada in recognition of her contribution to the engineering profession through her actions within APEGNB.

We are thrilled to have her join the team!

3 SIMPLE WRITING TIPS FOR ENGINEERS AND GEOSCIENTISTS

SUBMITTED BY CHRISTA BEDWIN

Christa has 25 years of experience editing for scientific and medical researchers, educational and trade publishers, industry, government, and academia, especially in chemistry, engineering, and the environment.

She teaches technical writing to professional engineers and scientists in Canada and internationally, including both corporate and university sessions, in person and online, and has published several textbooks about technical writing. She has contributed chapters to Editors Canada's books Editing Canadian English and Editorial Niches and has published several novels.

What's wrong with this sentence? Spend a minute to think about it. Take out a pencil and try to improve it before you move along.

During such time that it was possible to do so, we undertook to perform an inspection of the facility.

While crunching through the engineering details to solve problems can often be pretty fun, the real product we deliver to our clients is… writing. Many of us feel that the faster and easier we can get that writing done, the happier we'll be.

However, spending a little extra time to learn how to be a smoother writer will make your clients much happier. And as you practice good writing, it will become an easier process for you, too.

1. Who are you talking to?
Understanding your reader's point of view is an art that can take a while to learn. The quickest way to know if you have hit the mark is to have someone outside your immediate project group read what you have written.

- Do they understand it on the first read through?
- If your reader has to ask you questions, whether it's about missing logical steps or what the heck your jargon or acronyms mean, you need to go back and answer those questions clearly before unleashing your writing on the world.

2. Simpler writing sounds smarter.
It may seem paradoxical, but many experienced engineers have observed that the more someone knows what they are doing, the fewer words they need to tell you about it.

The surest-fire way to sound like you know what you're doing is not to try to wow them with large words and complex concepts. It's to deliver a sound solution, concisely!

e.g., When a senior engineer receives the following sentence from a junior: *"During such time that it was possible to do so, we undertook to perform an inspection of the facility."* they will probably edit it to this clearer and equally meaningful form: *"While we could, we inspected the facility."*

But we can improve upon this sentence even more! Can you already see the next problem with it?

3. Be specific.

Any sort of vagueness, including descriptive adjectives, can get you into trouble, and may imply something that you don't mean. It's much safer and more clear to say exactly what you mean.

e.g., If you noticed a 0.2 point increase in the pH in a river, in your report, say "we observed that the pH in the fall was 7.4, whereas it was 7.2 in the spring."

Do not say *"we noticed a significant change in the pH of the river."* The word "significant" could induce client panic.

There is ambiguity in the example sentence too. What is meant by "while we could"?

Further examination of the context showed that the writer meant *" While the plant was shut down, we inspected the facility."* Much more clear.

Homework

Here's another one for you to try. It's 27 words.
I can get it down to 7 words. Can you?

This review proposes to focus on the research and, more specifically, will point out their specificities as revealed by the most recent works reported within the literature.

MEET YOUR EXECUTIVE

A CONVERSATION WITH APEGNB'S EXECUTIVE LEADERSHIP ON WHAT MOTIVATES THEM, WHAT SUCCESS LOOKS LIKE AND THE FUTURE OF THE ASSOCIATION

ENGEOActions asked the 2023 Executive Council several questions to get to know each of them a bit better and gather their thoughts on where the Association is heading over the next year and beyond.

Q: How long have you been volunteering with APEGNB?

MPE: I had some exposure to the Association prior to graduating from UNB. I wanted to get involved, have my voice heard and give back to the profession. Now here I am, 17 years later, and still enjoying it very much.

MR: I started volunteering with our local APEGNB-SJ branch when I graduated from UNB and moved to Saint John. I decided to get involved to get to know other members and give back to my profession.

"Everyday, engineers and geoscientists are called upon to provide professional services to a number of various problems. Each time a decision is made, it is based on core principles applied with high professional standards. "

- Holly Young, P.Eng., FEC
Vice-President

Q: What (or who) motivated you to become a P.Eng. or P.Geo?

MA: I knew I wanted to be a professional of some kind but didn't truly know when I embarked on my post-secondary education. Course selection, interest, passionate instructors and professors, and opportunities for further education took me down the path of becoming a P.Geo.

RR: I did a lot of research of which profession I wanted. I found that engineers plays a crucial role in shaping modern society- and I wanted to be part of that!

HY: Having several relatives that were engineers, each with very different careers, I was fortunate to understand from a young age that engineers provided solutions to everyday problems – things that really matter! I have always been interested in the '*why and how*' things work and knew engineering would be a fun, challenging career with limitless opportunities.

Q: Talk about the value of licensure. Why is it important?

MPE: It is critical that APEGNB protect the health and safety of the public in New Brunswick. A part of that is ensuring that all those who practice engineering or geoscience are licensed with APEGNB. Limited licensure in particular will also fit a need to engage foreign trained professionals, which is a critical part to sustaining our profession.

RR: To obtain your P.Eng. designation demonstrates a high level of competence, professionalism, and dedication to the engineering field.

From L-R : *Matthew Alexander, P.Geo., FGC, Director Geoscientists Canada; Michelle Paul-Elias, P.Eng., FEC, Past President; Marlo Rose, P.Eng., FEC, Director, Engineers Canada; Raphaël Roy, P.Eng., President; Holly Young, P.Eng., FEC, Vice-President*

At an individual level, it signifies that a person has completed an education and training process and demonstrated their competence through rigorous testing and practical experience. To maintain this license, a professional engineer must also continue to demonstrate their knowledge and skills through ongoing education and professional development.

Q: What makes our mission meaningful to you?

MR: Our mission is meaningful to me because it embodies a few of the many reasons why I am proud to be a Professional Engineer. Our mission is "our" (APEGNB's) reason for being. It should be what drives all of us, to do what we do, each and every day.

HY: Who better to serve than the public which includes our family, friends, neighbours, etc? Everyday, engineers and geoscientists are called upon to provide professional services to a number of various problems. Each time a decision is made, it is based on core principles applied with high professional standards. Where we work and what we do may be different, but the shared purpose is the same.

MA: Upholding the mission is important because it ensures APEGNB is relevant and that members of the public know we take regulation seriously.

Q: What do you want to accomplish over the next year?

MA: Over the next year, it is important to determine what to do about Continued Professional Development. We cannot leave it as is and need to have a proper system in place to ensure that members undertake necessary continued professional development annually.

RR: I am excited for all that is going to come down the pipe this year! One of my main objectives is to have an in depth working session with Council to develop and refine a new version of our Associations strategic plan. I am hoping that we will be able to drill down and identify new goals as well as discuss previous objectives and how we might refine and improve on some of them.

Another area that I am looking forward to diving into is APEGNB's diversity, equity and inclusion efforts. The engineering profession has historically been dominated by certain demographics, and there is a growing recognition of the need to promote diversity and inclusion.

APEGNB can play a leadership role by providing training and resources on cultural competence, unconscious bias, and equity, and by working to remove barriers to entry and advancement for underrepresented groups.

Q: What makes APEGNB resilient?

HY: With over 100 years in existence, the Association continues to remain relevant with a willingness to adapt to a changing world. Engineers and geoscientists will never be obsolete – the way in which we work or the problems we encounter may change but our professions will continue to be looked upon as necessary problem solvers for future generations.

MPE: APEGNB is an organization that does not back down from our mission and recognizes that tough decisions must be tackled head on. We have shown that we are willing to change and evolve which demonstrates resiliency.

MR: Our profession is made up of a large, diverse group of individuals: educators, entrepreneurs, environmentalists, researchers, project managers, cost controls… you name it. It's through our diversity of knowledge and experience combined with our desire to make New Brunswick a better place to live and that makes APEGNB resilient.

Q: What would you say to someone if they were thinking about volunteering with APEGNB?

MPE: Volunteering for the betterment of your profession and your colleagues/peers has been some of the most rewarded time I have spent.

MA: Volunteering can be extremely rewarding and it is important as professionals to give back when we can. There are many different volunteer positions with APEGNB ranging from being on a Branch Association, to sitting on the Continuing Professional Development Committee, to being on the Provincial Council. I would encourage everyone that has the capacity to look into volunteering with the Association. You never know what you might discover and what new opportunities it might lead to.

Q: Any final thoughts?

MPE: I am proud to be working with our current council and APEGNB staff. I also want to send a big thank you to all those who work on a task force/committee, your work is appreciated.

RR: Our professions play a critical role in our modern society, and they will continue to be in high demand in the future. The challenges that we are and will be facing are big: climate change and sustainability, digital transformation, demographic and societal changes and globalization and interconnectivity, just to name a few.

Overall, our role in modern society is diverse and the challenges we face are complex and multifaceted. However, with our expertise, creativity, and problem-solving skills, we are well positioned to address these challenges and make a positive impact on the world and for our future generations.

CONSTRUCTION REMEDIES ACT- WHAT THAT MEANS FOR YOU

The *Construction Remedies Act* replaced the *Mechanics' Lien Act* over a year ago. Conor O'Neil, P.Eng., is a partner at Stewart McKelvey and explains how it could affect APEGNB registrants.

Submitted by Conor O'Neil, P.Eng.

A year ago, on April 1, 2022, the last provisions of the *Construction Remedies Act* came into force introducing the last part of the regime that replaced the *Mechanics' Lien Act*. Engineers and geoscientists may have had some level of comfort in dealing with the *Mechanics' Lien Act.* It was the law of the land from 1973 until it's repeal, a period of nearly fifty years. Many engineers and geoscientists may have spent all or some of their careers working under and administering contracts under the old regime and so some apprehension for the new regime is expected. This article briefly highlights some of the changes practicing engineers and geoscientists may encounter.

Lien Rights, Holdbacks and Engineers

Historically, a design professional's right to assert a lien under the authority of the mechanics' lien legislation was not entirely clear to some. While a design professional may have been entitled to a lien for site services, including contract administration, the design professional may not have been entitled to a lien for the preparation of the plans alone, particularly where a construction improvement did not actually proceed.

The distinction may have been an important one because the traditional legal advice would have been that the statutory holdback was required to be retained by an owner for any contracts under which a party may lien. In other words, if a design professional did not have a right to lien an improvement for the services it provided, then retention of the holdback was unnecessary. Historically, the consulting industry has followed suit and the general trend was that owners did not retain holdbacks for engineering contracts and certainly not for design work.

The *Construction Remedies Act* clarifies that the design, plan, drawing or specification by an engineer is a service which is lienable. An express distinction for geoscientists is notably absent, although architects are included. From an engineer's perspective, the positive is that an engineer clearly has a right to lien a project for unpaid design services. However, this also means that an owner, if it does not retain a statutory holdback, is exposed to lien claims by, and reciprocal holdback obligations to, the subconsultants of engineers. It therefore follows, from a strictly legal standpoint, that retention of the statutory holdback on an engineering contract is required.

Although there are different risk management strategies for every project, engineers should know that the *Construction Remedies Act* also contemplates that their contracts can provide for payments of the holdback on a phased basis in respect of the design. In other words, rather than retaining the entire holdback until 60 days after the entire project is substantially performed, an engineer may have the option to have the holdback for design work released after the design phase is complete.

Contract Administration Tips

The new legislation codifies that a payment certifier must be an engineer, architect, or other person identified in the contract. This enshrines the typical role of the contract administrator in the legislation. Importantly, payment certifiers must use the form of the certificate of substantial performance which is prescribed by the regulations. This means that engineers should not use a simple letter to certify substantial performance or their own ad hoc forms. The form, number 7, is available online in the regulations.

Engineers putting together tender packages for Crown or local government entities should know that in some instances, (specifically for projects that will have a contract price in excess of $500,000) special forms of labour and material payment bonds and performance bonds are required. Those forms are also available online in the regulations. Importantly, engineers are themselves exculpated from this requirement. Those preparing tender packages should also pay careful attention to recent changes to procurement legislation.

Finally, there is continued confusion with respect to the applicability of the holdback trust accounts. The trust account is a new concept in New Brunswick, and unknown to the other Atlantic provinces. Essentially, for improvements with a contract price greater than $100,000 an owner is required to retain the statutory holdback in a trust account with a financial institution. This effectively converts the statutory holdback from being a notional amount, that was simply retained and not paid until after substantial performance of the improvement, to a real requirement to pay the holdback into a separate trust account. In most instances the trust account is to be administered jointly by the owner and contractor as joint trustees. In some instances, it is possible to have a second trustee other than the contractor selected from an enumerated list of potential trustees, including engineers. In those instances, it is important to note that an engineer cannot act as both the trustee of a holdback trust account and a payment certifier for the same improvement.

Notwithstanding the changes discussed above, which may at first seem unusual, the principles underlying the *Construction Remedies Act* are similar in nature to those of the *Mechanics' Lien Act*. Most of the changes are a result of a modernization push across the country which has seen most provinces undertake a review or introduce legislation to update their lien legislation.

For more information or to nominate a peer or colleague visit www.apegnb.com

WHAT IS A COMPETENCY-BASED ASSESSMENT?

By Holly Ayles, Registration Coordinator, APEGNB

As part of the national trend towards changing how work experience is documented, APEGNB has moved to the Competency-Based Assessment (CBA) for all new applicants. The Competency-Based Assessment was created by Engineers Geoscientists British Columbia and is used by many other regulators across Canada. APEGNB adopted the CBA method last year and has since seen individuals receive their P.Eng. and P.Geo. designations. In the future, it will be the only method accepted for documenting work experience and replaces logbooks and the work experience essay.

CBA offers many advantages over previous methods, including increased transparency and objectivity in assessment. As a competency based approach rather than time-based, the system reflects current national regulatory trends. Additionally, CBA covers a broad range of 34 competencies across 7 competency categories, ensuring that applicants have a thorough breadth of experience before becoming licensed to practice.

New applicants will create an account on the CBA website before creating 34 entries about their work experience. Each entry corresponds to one competency and it is up to the applicant to demonstrate how they have adequately met each competency during the course of their work experience.

Once complete, an applicant's submission is reviewed by their supervisor and other professional references, known as "validators".

Finally, the applicant's submission and the validators' feedback are reviewed by an APEGNB volunteer assessor, who provides a final decision as to whether the applicant has met the CBA criteria. If accepted, the applicant's submission is forwarded to the Board of Admissions as part of the P.Eng. or P.Geo. application.

Despite the changes to how work experience is documented, the range and variety of experience required to meet the licensure requirements has not changed. APEGNB continues to require a high standard of acceptable work experience before licensure is granted.

Scan here for more information about the CBA program.

PORT SAINT JOHN :

The big comeback with capacity to do more

Article and photos submitted by Port Saint John

Thanks to significant investments and a transformative modernization project, Port Saint John is the fastest growing container port in Canada and on the Eastern seaboard of North America.

Thanks to significant investments and a transformative modernization project, Port Saint John is the fastest growing container port in Canada and on the Eastern seaboard of North America.

Last year, the Port and its partners hit their first 100,000 Twenty-foot Equivalent Units (TEU) in cargo throughput, going on to end the year with more than 150,000 TEUs in throughput and an annual growth rate of 72 per cent – the most activity the Port has ever experienced in a single year.

With approximately $650 million in investments from the private sector, government, and the Port Authority, the Port is experiencing tremendous growth and is on a trajectory to reach 800,000 TEUs of capacity in just a few years.

Major partnership developments are building on this momentum. As of this year, three of the world's top container lines regularly call into Saint John: MSC, CMA-CGM, and Hapag Lloyd AG, the latter of which announced, together with CP Rail, an additional call into Port Saint John midway through 2022. Port Saint John's world-class terminal operator DP World continues to make significant investments in infrastructure and technology, including the addition of two super-post-Panamax quay cranes and a variety of enhancements to the fleet of cargo handling equipment. This addition brings the complement of gantry cranes to four and enables the terminal to handle two container vessels simultaneously.

In 2022, the Port's modernization entered a new phase with the announcement of an additional $42 million in funding to strengthen trade corridors and increase supply chain efficiencies. This includes investments from federal and provincial governments and Port Saint John, as well as an additional $21 million invested by the federal government into improving rail terminals locally and across the province. Together, these investments support national supply chain fluidity and elevate Port Saint John and the region as significant players in the Atlantic Canadian Gateway strategy.

As the world began to travel again, the cruise sector made a triumphant return to Port Saint John.

The arrival of the Royal Caribbean Cruise Line's Oasis of the Seas, the world's fourth largest cruise ship and the largest ship to ever enter the inner harbour was a highlight. With the return of the cruise sector, the Port celebrated its 3 millionth cruise ship guest and introduced the AREA506 Waterfront Container Village, a comprehensive waterfront experience that is gaining local, national, and international recognition as an innovative attraction.

The Port's focus on decarbonization has given rise to a partnership with Saint John Energy and the purchase of Renewable Energy Certificates (RECs). This will provide one hundred per cent renewable wind energy to power the Port's cruise terminals, corporate offices, and Port-owned terminals once the Burchill Wind Project is operational later this year. The Port is also participating in a rigorous decarbonization and sustainability planning exercise, which includes examining its current footprint, setting ambitious sustainability targets, and building a forward-looking master plan and strategy to reach those targets.

In keeping with this bold vision of exceeding safety and environment industry standards, Port Saint John is the first Canadian port to achieve the Occupational Health and Safety Management System ISO Certification (ISO 45001:2018), and has simultaneously achieved the Environment Management Systems Certification (ISO 14001:2015). In addition to these the Port recently signed on to the UN Global Compact as part of their commitment to being a responsible company.

"With every new milestone we hit, we solidify our position as one of Canada's top ports and we intensify our standing as an agent for positive change and economic growth for our province," says Craig Bell Estabrooks, President and CEO of Port Saint John. "We firmly believe there is a role for everyone in this Journey."

Already the International Longshoremen's Association (ILA) hours have increased to 300,000 person hours, employing more than 200 people, and creating about one hundred new positions at our working port with more to come. The Port continues to work collaboratively with its unionized workers and received unanimous support for the collective agreement signed with Public Service Alliance of Canada (PSAC) this year.

"We know that as we experience this ongoing growth and change, we must continue to evolve, adapt, and work with our partners, our community, our businesses, and our local organizations to ensure we are growing together and for the betterment of our region," says Bell Estabrooks. "There's a lot of momentum right now, and as a city and as a province it's important we continue to work together to capitalize on all of the opportunities being presented to us right now, and in the near future."

ABOUT PORT SAINT JOHN

Port Saint John is in Saint John, New Brunswick. It is the fastest growing container port in Canada and on the Eastern seaboard of North America. It is ideally positioned and a part of the critical transportation infrastructure of Canada and a cornerstone of the New Brunswick economy.

The vision of Port Saint John is to be a catalyst for growth, recognized for our community leadership. Port Saint John is Atlantic Canada's largest port by tonnage and has a diverse cargo base, including dry and liquid bulk, break bulk, containers, and cruise.

NEW BRUNSWICK- HOME OF THE MILITARY ENGINEERS

Submitted by Captain Pavlo Besedin, P.Eng.

All images sourced from the CFSME Facebook Page with permission.

Did you know the Home of the Canadian Military Engineers is in New Brunswick?

Since 1998, located in Oromocto, NB at Canadian Forces Base Gagetown, the Canadian Forces School of Military Engineering (CFSME) serves as the main hub of Military Engineer training for the entirety of Canada. The school is responsible for the conduct of more than 85 courses that span all the ranks and occupations within the Combat and Construction Engineer domains in the military. Nearly 2000 students transition through the school on an annual basis for training as either officers, technicians, or specialists. Having just celebrated 25 years in New Brunswick CFSME continues to train future leaders and act as the centre of excellence for Military Engineering.

Military Engineering education long has roots in Atlantic Canada, first authorized in July 1907 as the School of Military Engineering in Halifax, NS. Since that time the school has moved many provinces to Petawawa, ON in June 1940, with an additional school in Dundurn, SK in 1941 followed by moving to Chilliwack, BC for the remainder of the Second World War.

The Canadian Forces School of Military Engineering continued to train engineers out of Chilliwack, BC until 1997 when it moved back to Atlantic Canada, specifically to Canadian Forces Base Gagetown in Oromocto, NB. Over the century of training the school has contributed trained Engineers for two World Wars, the Korean Conflict, numerous United Nations operations, Afghanistan conflict and now training missions in Ukraine. A record of this history exists at the Canadian Military Engineers Museum, co-located within CFSME, and open to the public year-round. Anyone interested in learning more about this history or seeing it is welcome to stop by.

Currently CFSME trains 11 of the 13 Military Engineer professions for the Canadian Armed Forces, some of which are strictly military specialties while others are very close to their civilian counterparts. Two additional Military Engineer professions are trained at schools in Ontario. The breadth and span of training across CFSME is extensive, often complex and challenging, but ultimately prepares engineers to support the full span of current and future Canadian Armed Forces operations with confidence.

The calling of the engineer can be related to the calling of the military. Upholding professional values, ethics and practices crosses the boundary between military and civilian. Nowhere is this more prevalent and obvious than within the Engineers. Engineers think alike – and CFSME has been training this engineer mindset for over a century. Many of the Military Engineers are members of various Professional Engineer and Geoscientist Associations or members of various societies of Certified Engineering Technicians & Technologists across Canada as applicable to their training and careers.

Additional information on Military Engineering, CFSME or the history of Military Engineering is available through www.forces.ca or www.cmemuseum.ca.

Capt. Pavlo Besedin, P Eng., is a Construction Engineering Officer in the Royal Canadian Airforce and a professional engineer with a degree in civil engineering from the Royal Military College of Canada. They are currently employed as a Squadron Second in Command of the Construction Engineer Management Squadron at CFSME and are the APEGNB Fredericton Branch CFB Gagetown Council Representative.

Military Professions Trained at CFSME:
1.Combat Engineer Officer
2.Construction Engineer Officer
3.Combat Engineer
4.Construction Technician
5.Plumbing and Heating Technician
6.Electrical Distribution Technician
7.Electrical Generation Systems Technician
8.Refrigeration and Mechanical Technician
9.Water Fuel Environmental Technician
10.Drafting and Survey Technicians
11.Construction Supervisor

Military Professions Trained at schools in Ontario:
1.Geomatics Technician
2.Firefighter

THE NEXT TWENTY YEARS: AN ENERGY FUTURE FOR NEW BRUNSWICK

Submitted by Bradley J. McPherson, P. Eng.
Director of Innovation, Center for Nuclear Energy Research (UNB)

Over the next two decades, the choices made in New Brunswick's energy sector will shape the future of our province. Energy is a key component to a vibrant economy. A strong economy can provide revenue in many forms to the government, which is used to provide key services to residents. Sounds simple, right? However, this future requires consistent good choices to be made between now and then.

In addition to a strong economy and energy future for New Brunswick, decision makers must consider tangential aspects of policies that are important to provincial residents. Renewable integration, Greenhouse Gas (GHG) reduction, grid modernization for net metering and time of use rates, as well as reasonable energy pricing will all be important themes of the provincial energy landscape through the 2040s. Along the way, policy and political decision makers will need to make informed conscious choices to ensure New Brunswick is set up for success in the short, medium, and long term.

Power rates remain among the one of the top concerns of residential and business/industrial ratepayers alike. Though New Brunswick has had artificially low power rates for many years, the reality facing the power utility, government, and ultimately the ratepayers, is that rates must rise in both the short and long term if NB Power is to climb out of more than $5B in legacy debt. Though we differentiate between the provincial debt and the debts of the utility, given that NB Power is wholly owned by the Provincial Government, the debts are one, making New Brunswick's debt closer to $20B. Given this, it is critical to maximize any expenditure in power generation and infrastructure given the possible future impact on debt while ensuring rate hikes are minimized as much as possible.

Upcoming Plant Closures

Over the next twenty years, a number of power plant retirements loom large on the horizon in New Brunswick. While this is not necessarily unexpected, the retiring plants play an integral role in our current energy mix as the plants slated for retirement primarily serve as baseload generation. Baseload plants are critical to the energy infrastructure in New Brunswick as they run steadily and reliably, filling the grid with a strong flow of uniform electricity based on the loading needs of the grid. Baseload plants are not intermittent and thus the flow of power is not generally interrupted unless there is an outage.

According to the integrated resource plan produced by NB Power in 2020, the province is looking at the retirement of over 2000 MWe of baseload power by the early 2040s.

The largest baseload and peaking stations slated for closure are:

- Belledune 2030 – 465 MW (baseload via coal)
- Point Lepreau 2040+ – 670 MW (baseload via nuclear)
- Coleson Cove 2040+ – 333 - 950 MW (baseload via oil & petroleum coke)
- Millbank/Ste Rose 2031 - ~ 500 MW (peaking via diesel)
- Mactaquac 2028 to 2036 – 110 MW (offline value yearly over the refurbishment project life) (baseload, load following, peaking via hydro)

For a better visual see Figure 1.0 on the following page.

Baseload power generation plants provide necessary backing capacity on the grid to support the use of intermittent sources such as wind, hydro, or solar which are not always available and do not have adequate storage capacity as of yet. Consider the concept of baseload power plants and backing capacity in terms of power supplied to a home with a standby panel connected generator. The home receives its electricity from the grid under normal operation but in a period of unexpected intermittency, a generator connected to the home's electrical panel will pick up the load and cover the period of intermittency until the original grid source is ready to resume producing and providing power.

The concept of backing capacity must be satisfied when jurisdictions bring on renewable intermittent resources to ensure grids remain stable, especially in times of high demand such as the coldest days of winter or hottest days of summer. In terms of strategic choices over the next two decades, utilities and

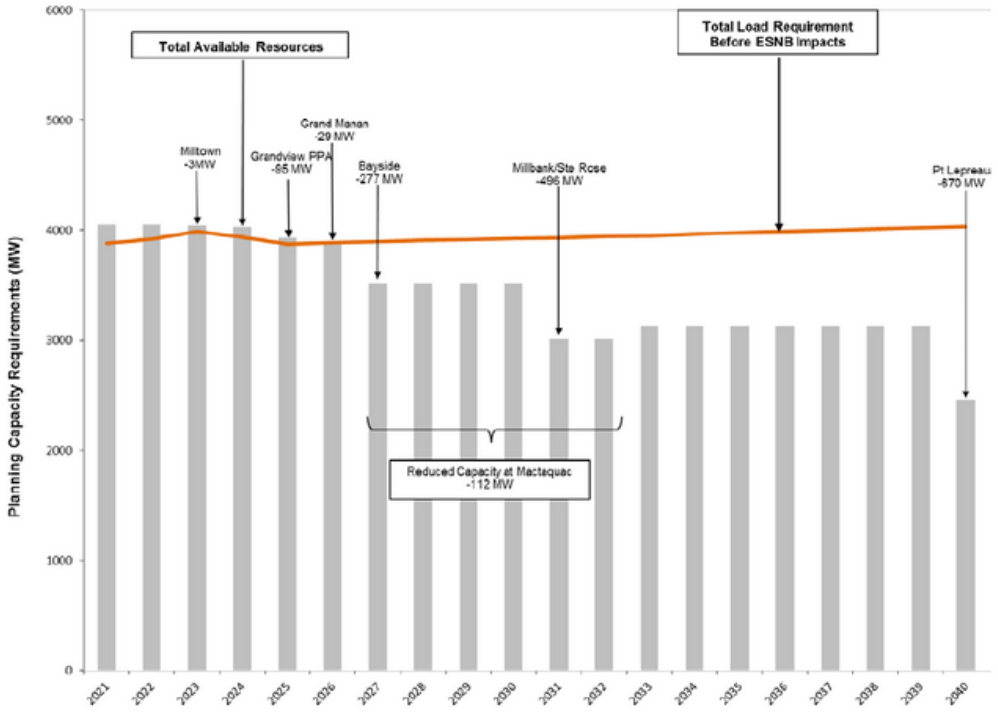


Figure 1.0 From NB Power's "2020 Integrated Resource Plan"

governments must evaluate and balance the amount of intermittency on any grid against what baseload supply is available. In a worst-case situation, unless the backing baseload source is non-greenhouse gas emitting, the amount of intermittent renewables brought on any grid could inadvertently increase greenhouse gases as a result of the generation asset which is acting as the system balancer. This would be counterproductive to attempts to decarbonize over the longer term.

Intermittent Sources

In terms of wind development, New Brunswick has the potential to develop up to an estimated 1200 MWs of onshore wind power in the province of which 400 MWs of wind power is currently now on grid intermittently. NB could access the remaining 800 MW of wind if it proved cost effective to access successfully. Wind generally has an average capacity factor of 30% availability compared to average baseload plant capacity factors which operate in the 90% range, making wind a non-suited baseload replacement option by itself.

Natural Resources Canada (NRCan) estimates solar irradiance availability in New Brunswick at around 1140 kWh per kW of solar panel installation. The largest roadblock in solar remains a viable storage option as solar traditionally can supply energy for up to only 8 hours a day in winter and at best 13 hours a day in summer. With large scale solar arrays and potential storage options, the land area footprint could present a significant barrier to development and cost efficiencies. Given constraints in storage and environmental footprint, solar alone will not provide a suitable option for baseload replacement.

Though New Brunswick has a rich history with hydro installations, it will cost between $3-$5 billion in refurbishment costs alone to return the Mactaquac station back to it's original in-service date of 2068. This, coupled with the issues associated with Muskrat Falls and environmental concerns around new build hydro will make it nearly impossible to expand the hydro network in the province. One option would be to expand capacity at sites like Grand Falls (additional 60 MW) and Nepisiguit Falls (5 MW). In 2023, NB Power will begin removal of the 3 MW Milltown hydro dam.

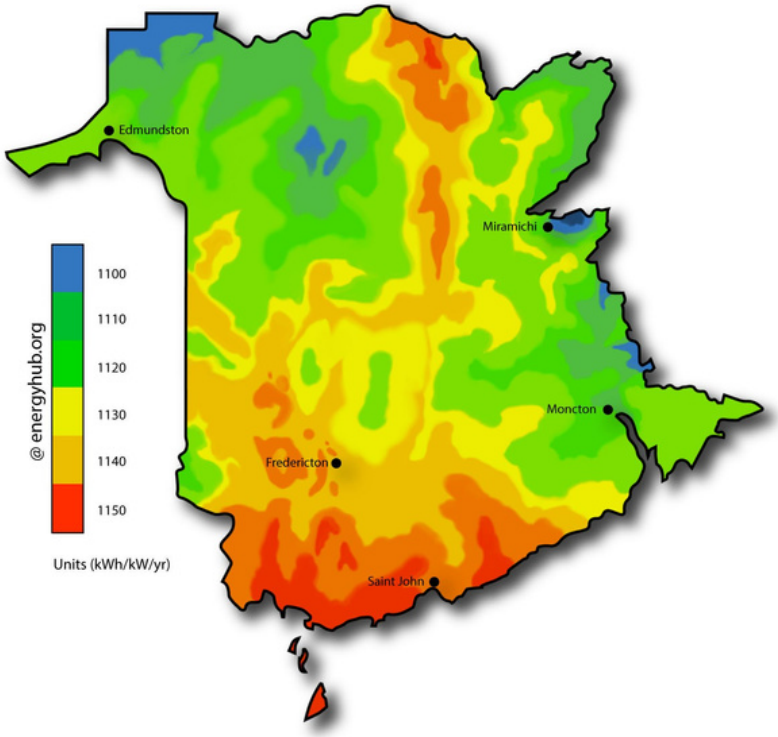


Figure 2.0 The average solar power system in New Brunswick will produce approximately 1142 kWh of energy per kW per year. Sourced from energyhub.org

What options are out there?

- **Fossil Fuels**

As we know, the fate of coal in Canada is limited past 2030 due to its high carbon intensity. Heavy fuel oil is slightly better in terms of carbon intensity and natural gas is better still, producing 50% less carbon dioxide per megawatt of power produced. When discussing baseload operations and requirements, the preliminary fossil fuel choice that most jurisdictions are turning to is natural gas due to its high abundance and lower carbon intensity. However, in Canada, any new natural gas power units will still be subject to carbon tax. In New Brunswick, 2000 MW of new natural gas power plants would cost us, the ratepayers, hundreds of millions annually in carbon penalties.

- **Nuclear**

Nuclear power provides safe, clean, reliable baseload power but the drawbacks for nuclear can include long planning times and high cost plant construction when not properly managed as well as legacy spent fuel concerns.

Advanced nuclear in the form of small modular reactors has moved to the forefront of the nuclear industry. with reactor vendors proposing to reprocess spent nuclear fuel and consume the reprocessed material as new reactor fuel, the legacy aspect from hundreds of thousands of years can be reduced down to 300-500 years before inactivity. Advances in additive manufacturing and off-site construction techniques have positioned SMRs to reduce long construction times while inherent safety design methodology provides advances in construction techniques for advanced reactors versus conventional nuclear reactors which are currently in use across Canada. These advances in technology and design promote a lower construction and operation cost overall with no carbon taxation concerns. The biggest hurdle remaining in advanced nuclear is time, as the coal deadlines and retirements in New Brunswick are fast approaching. While the advances described here are monumental, the regulatory process for new nuclear must remain extremely robust to give confidence to the public that approved advanced nuclear is safe and steadfast.

- **Alternative Energy**

Although there have been significant advances in bio power production (biomass, bio-oil, extraction techniques, anaerobic digestion) and geothermal, these power generation methods may not be robust enough at this time to cover the amount of baseload generation required. They can however complement a diversified generation mix (as currently found in New Brunswick) to utilize and enhance opportunities for domestic and industrial applications where they best fit.

The Future- The next ten years

To address the looming closures of baseload and peaking plants, there is no one solution that is a best fit. As mentioned above, the utility and government alike must balance an ever-growing energy demand against higher rates and carbon considerations. In conjunction, the Federal Government of Canada has signalled that carbon pricing is here to stay and that clean fuels must be considered in future energy generation solutions.

This brings us back to what can we do in New Brunswick? It appears that a mix of new generation and regional cooperation may provide the best solution. To that end, first we must explore more interconnection with our closest and largest energy partner, Hydro Quebec. Without creating a total dependency on our closest western neighbour for energy, we could continue to boost our energy mix in province with greenhouse gas reduced hydro provided from Quebec over the next decade. This would allow for New Brunswick to finalize plans for Mactaquac, determine appropriate replacements for peaking plants at Millbank/Ste Rose, finalize the ongoing refurbishment of the Bayside natural gas generation asset in Saint John and contemplate the future of Belledune. While additional interconnection may require more transmission infrastructure in New Brunswick, we have a willing partner in the Government of Canada who would welcome the concept of the Atlantic Loop greatly.

2030s and Beyond

To remain in the 80% range of power generation by which no greenhouse gas is produced in New Brunswick, additional robust baseload generation will need to be constructed. This additional baseload will not only replace existing facilities in province but will be needed to handle the increased load from the electrification of transportation and provision of backing capacity resulting from the desire for renewable installation on both homes and businesses as well as on a larger scale. Finally, it will be important for the continued sale of electricity to our neighbours and buying partners across the northeast which provides enormous revenue to the utility and province.

With the current legislated target of 40% of in-province electricity sales being generated by renewables, this gives the provincial utility a baseline on what it must, by regulation, meet. Given that New Brunswick balances portions of Maine and Prince Edward Island and their respective renewable goals and as society puts more pressure on renewable integration, the utility must be in a position to add new renewable generation successfully. The best solution currently available is baseload for balancing.

Tomorrows regulations aside, the demand on our energy grid will continue to increase via electrification of technology and our everyday life. It is not inconceivable that over the next 30 years, New Brunswick could require double the energy we have on grid today.

This is why the energy pyramid concepts of conservation, energy efficiency, and renewable energy are so important. Without teaching energy conservation and making processes and technology more efficient, renewables alone will never be able to fill the gap on grid due to the sheer energy demand.

The Solution

Given the considerations for the future presented here, the refurbishment of Mactaquac, replacement of 700 megawatts of nuclear, and the offset of 1400 MW of fossil fuels is required just to keep the status quo. A combination of advanced reactors (SMRs), and wind/solar renewables can help to close this gap but we as a province must face the reality that new baseload generation may need to be built in province to meet our ever-growing needs. The Point Lepreau nuclear site was originally contemplated to hold two full scale reactors with the possibility of as many as four. There are synergies to locating an additional enhanced CANDU reactor on the site to replace the existing baseload which currently powers around 30% of the grid daily. This concept is also practical when considering the location for a cluster of small modular reactors at the Point Lepreau site. In addition, Belledune is exploring the placement of an advanced reactor as it looks to revitalize the port should coal cease to be shipped there in 2030.

From my vantage point, the answer is not an easy one but none the less we as a province must put significant effort into figuring this puzzle out before it is too late. Energy runs our economies, powers our daily lives, and gives us prosperity. If energy prices us out of economic opportunities, if we don't have enough power available to attract businesses (this is already happening), and if we as users can't afford our monthly bills, our province will fall well behind others who are already planning and implementing solutions for the future to ensure it looks bright.

This is an independent thought article by Brad McPherson, P.Eng. Brad is the director of innovation at the Centre for Nuclear Energy Research (CNER) at the University of New Brunswick and a stipend CAE in the department of Chemical Engineering focusing on energy and environment. In over 17 years with the provincial government of New Brunswick, Brad held positions at the Department of Environment & Local Government, Executive Council Office, and various managerial and director level positions at the Department of Energy & Resource Development, New Brunswick Energy Solutions Corporation, and NB Power.

New campaign shows how Canada's Engineers are *Building Tomorrows*

Engineers are stepping into a whole new light— the spotlight that is.

On April 11, Engineers Canada launched a new marketing campaign that calls on Canadians to think differently about the value of engineers. Conceived in collaboration with Canada's engineering regulators, the "*Building Tomorrows*" campaign challenges Canadians to expand their perceptions of engineers—not just as builders of bridges and buildings—but as builders of solutions that make our world a better place.

From biomedical advances that create new hope for those facing a devastating diagnosis to infrastructure adapted for climate change that makes our cities safer and more resilient, *Building Tomorrows* features engineering ingenuity across every touchpoint in our lives and showcases how engineers make all of our lives better.

The centerpiece of the campaign is a 30-second television spot, which uses building blocks—a familiar and well-understood tool—as a means to illustrate the many ways that engineers are building solutions that make a difference in our lives. The television spot will air nationally across Canada until the end of May.

In a press release to mark the launch, Engineers Canada President Kathy Baig, MBA, FIC, ing., DHC, celebrated the role that provincial and territorial bodies played in helping shape the campaign, "This campaign is the product of many years of planning and hard work from our provincial and territorial partners. It helps expand understanding about the central role that engineers play in building solutions to address some of the most daunting challenges we face as a country, including climate change, healthcare, urban planning and safe infrastructure."

APEGNB was proud to serve as part of the advisory group on this exciting project.

The campaign's website, located at www.BuildingTomorrows.ca, features the television spot and highlights case studies of unexpected and impactful ways engineers are making a difference in our world.

Featured examples include:

- How engineers are helping people with disabilities increase their independence and confidence by creating prosthetics that use sensors to detect muscle contractions and enable more control through natural movements.
- How engineers are helping reduce our dependence on fossil fuels and ecologically harmful substances by developing new geothermal power plants that use the natural heat of the earth to generate energy more effectively and efficiently.
- How engineers are helping create safer work environments in dangerous industries like mining and construction by developing wearable technology to help monitor environmental conditions and alert wearers if they're exposed to dangerous levels of heat, radiation, or toxicity.

The *Building Tomorrows* campaign is a powerful call to action, urging Canadians to reimagine the vital role that engineers play in our society. As we face complex challenges, engineers are at the forefront of creating innovative solutions that shape a better world for generations to come. Its time to recognize and celebrate engineers as the builders of a brighter tomorrow. Join us in supporting this visionary campaign and learn how engineers are transforming our world for the better at **www.buildingtomorrows.ca**

Thinking about retirement?

It's time to make your money work for you.

Retirement is finally approaching… now what? **The Engineers Canada-sponsored Financial Security Program** offers a **registered retirement income fund (RRIF)** and **life income fund (LIF)** that turns your hard-earned savings into a steady stream of income for your retirement years.

You'll also continue to enjoy the advantages you're already used to with your group plan – such as lower-than-retail fees*, certified Canada Life support and continued access to the Canada Life website and statements.

Committed to helping you enjoy the retirement you deserve

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