

From: [Josh Jenkins](mailto:Josh.Jenkins@acoa-apeca.gc.ca)
To: [Luke Bulmer](mailto:Luke.Bulmer@acoa-apeca.gc.ca)
Subject: FW: Moltex Energy Canada - PAF ready for review
Sent: 11/30/2023 1:41:00 PM

Can you follow up on this part (highlighted)?

From: Jennifer Cormier <Jennifer.Cormier@ACO-APECA.GC.CA>
Sent: Thursday, November 30, 2023 12:35 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Mélanie LeBlanc <Melanie.LeBlanc@ACO-APECA.GC.CA>; Tristan Hovey <Tristan.Hovey@ACO-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACO-APECA.GC.CA>
Subject: RE: Moltex Energy Canada - PAF ready for review

Thanks Josh.

Did you get the green light to send up without the awareness process? Just trying to gauge urgency for our review.

Also, do you have the equity and financials for this project?

Jenn

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Thursday, November 30, 2023 11:50 AM
To: Jennifer Cormier <Jennifer.Cormier@ACO-APECA.GC.CA>
Cc: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Mélanie LeBlanc <Melanie.LeBlanc@ACO-APECA.GC.CA>; Tristan Hovey <Tristan.Hovey@ACO-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACO-APECA.GC.CA>
Subject: Moltex Energy Canada - PAF ready for review
Importance: High

Hi Jennifer,

Here's the link to the Moltex PAF, for your team's review and comments:

[Project: Project Assessment: Demonstrate the WATSS technology using spent CANDU fuel - Dynamics 365](#)

Please let us know if you have any questions or concerns – thanks,

Josh Jenkins
Director, Innovation, Trade & Business Growth
Atlantic Canada Opportunities Agency / Government of Canada
Josh.Jenkins@canada.ca / Tel: 506-851-3626 / Cell: 506-227-9520 / TTY:1-877-456-6500

Directeur, Innovation, commerce et croissance des entreprises
Agence de promotion économique du Canada atlantique / Gouvernement du Canada
Josh.Jenkins@canada.ca / Tél: 506-851-3626 / Cell: 506-227-9520 / ATS:1-877-456-6500

From: [Josh Jenkins](#)
To: [Jeanetta Hill](#)
Cc: [Kalie Hatt-Kilburn](#)
Subject: FW: Request for review and advice -
Sent: 10/19/2023 5:13:00 PM

Hi Jeanetta, see below...

NRCan's Nuclear Division came back to us today with their scientific opinion/advice re: Moltex's proposal.

I can fill you in on our thinking around next steps on Monday in Florenceville.

Let me know if you have any questions – thanks,

Josh

From: Poupore, Jessica <Jessica.Poupore@NRCan-RNCan.gc.ca>
Sent: Thursday, October 19, 2023 4:59 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Beauregard-Tellier, Frédéric <frederic.beauregardtellier@nrca-rnca.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>; Marie Thibeault <Marie.Thibeault@ACOA-APECA.GC.CA>; Brady, Daniel <daniel.brady@NRCan-RNCan.gc.ca>; Jackson, Candice <Candice.Jackson@nrca-rnca.gc.ca>; Robibero, Erica <erica.robibero@NRCan-RNCan.gc.ca>; Ottaway, Chelsea <chelsea.ottaway@NRCan-RNCan.gc.ca>
Subject: RE: Request for review and advice -

UNCLASSIFIED - NON CLASSIFIÉ

Hi Josh,

s.20(1)(b)

s.21(1)(a)

s.21(1)(b)

s.21(1)(c)

000901

I trust this is helpful. Happy to answer questions or provide clarification.

Best regards,
Jessica

Jessica Poupore
(she/her/elle)

A/Deputy Director, S&T / Directrice adjointe p.i., science et technologie
Nuclear Energy Division / Division de l'énergie nucléaire

Natural Resources Canada - Government of Canada
Ressources naturelles Canada - Gouvernement du Canada
jessica.poupore@nrcan-rncan.gc.ca Mobile: 613-292-8981

From: Jackson, Candice <Candice.Jackson@nrcan-rncan.gc.ca>
Sent: Wednesday, September 27, 2023 3:49 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Beauregard-Tellier, Frédéric <frederic.beauregardtellier@nrcan-rncan.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>; Marie Thibeault <Marie.Thibeault@ACOA-APECA.GC.CA>; Brady, Daniel <daniel.brady@NRCan-RNCan.gc.ca>; Poupore, Jessica <Jessica.Poupore@NRCan-RNCan.gc.ca>; Robibero, Erica <erica.robibero@NRCan-RNCan.gc.ca>; Ottaway, Chelsea <chelsea.ottaway@NRCan-RNCan.gc.ca>
Subject: RE: Request for review and advice -

UNCLASSIFIED - NON CLASSIFIÉ

Hi Josh,

Thank you for reaching out and for our continued dialogue. This email serves to acknowledge your request for the Nuclear Energy Division to support ACOA New Brunswick

We have quite a few folks out of office this week, but we will circle back next week with next steps.

Thanks again for the continued collaboration!

s.20(1)(b)
s.21(1)(a)
s.21(1)(b)
s.21(1)(c)

000902

Candice

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Wednesday, September 27, 2023 3:28 PM

To: Jackson, Candice <Candice.Jackson@nrcan-rncan.gc.ca>

Cc: Beauregard-Tellier, Frédéric <frederic.beauregardtellier@nrcan-rncan.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Josh Waite <Josh.Waite@ACO-APECA.GC.CA>; Marie Thibeault <Marie.Thibeault@ACO-APECA.GC.CA>

Subject: Request for review and advice -

Hi Candice,

As we've previously discussed,

s.20(1)(b)

s.21(1)(a)

s.21(1)(b)

s.21(1)(c)

000903

ACOA, while acknowledging we do not have the technical knowledge or expertise in this field, understand the important role a spent fuel technology, such as WATSS, would play in a global fleet of CANDU reactor's waste management practices; reducing the cost, volume, and toxicity of spent nuclear waste while producing low/no carbon electricity at low-cost, and bringing economic benefits and opportunities to the region and country at large.

We look forward to receiving a review _____ and will make ourselves available for any discussions or clarifications needed in order to facilitate a timely response, noting the pace which is required to support the ongoing development of the technology,

Thank you very much,

Josh Jenkins

s.20(1)(b)

s.21(1)(a)

s.21(1)(b)

s.21(1)(c)

Page 905

**is withheld pursuant to sections
est retenue en vertu des articles**

20(1)(b), 20(1)(c), 20(1)(d), 21(1)(b), 21(1)(c)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

Page 906

**is withheld pursuant to sections
est retenue en vertu des articles**

19(1), 20(1)(b), 20(1)(c), 20(1)(d), 21(1)(b), 21(1)(c)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

**Pages 907 to / à 911
are withheld pursuant to sections
sont retenues en vertu des articles**

20(1)(b), 20(1)(c), 20(1)(d)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

From: [Josh Jenkins](#)
To: [Kafa El Zamer](#)
Cc: [Crystal Hawkes](#)
Subject: Project Over \$1M - Moltex
Attachments: Project Overview Moltex WATSS Hot-cell Demonstration FINAL.docx
Sent: 11/29/2023 2:32:00 PM

Hi Kafa,

Here's some text you can use to share the attached one-pager for Moltex with DG Ops for their review and comments:

Hi Folks,

Attached you'll find the one-pager on a project we're recommending for Moltex Energy Canada. The document has been circulated with ED Directors and generated a good discussion, with additional points on due-diligence reflected in the attached.

We've worked the project up in close consultation with NRCan's Nuclear Energy Division (validation on the science), as well as colleagues at SIF who are co-funding the development of the technology with a \$47.5M project announced in 2021.

Please let me know if you have any questions or comments on the project – thanks,

Josh Jenkins
Director, Innovation, Trade & Business Growth
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s.20(1)(b)

s.21(1)(b)

Project Overview

(Template for projects seeking assistance over \$1M)

COMPANY NAME	Moltex Energy Canada (MEC) Inc.		
LOCATION	Saint John, NB & Chalk River Laboratories, Deep River, ON		
PROJECT NAME	Demonstrate the WATSS technology using spent CANDU fuel		
ASSISTANCE REQUESTED	cond. repayable	TOTAL PROJECT COST	
ACOA PROGRAM	REGI – BSP	QA# 225246	
CLIENT EXPOSURE			
BRIEF COMPANY PROFILE			
<p>Established in 2018 and co-founded by Dr. Ian Richard Scott and John Durham, Moltex Energy Canada (MEC) Inc. is a start-up nuclear power development company. They are a subsidiary of Moltex Energy Limited which is headquartered in the UK and was established in 2012. MEC is developing a range of molten salt reactors (MSRs) known as Stable Salt Reactors (SSRs), one of which, called the Stable Salt Reactor - Wasteburner (SSR-W), is specifically designed for burning used nuclear fuel. In parallel, MEC is also developing the Waste To Stable Salts (WATSS) technology to convert and recycle used nuclear fuel to be the fuel source in the SSR-WWATSS</p>			
BRIEF PROJECT DESCRIPTION			
<p>The project will demonstrate the Moltex Waste To Stable Salt (WATSS) technology</p> <p>This demonstration using spent CANDU fuel (“hot cells”) also builds on the previous project ACOA supported, QA#217315 for \$3M, which sought to design, procure and assemble the equipment to complete a demonstration</p>			
RATIONALE			
<p>The pressure is rising for Canada to reach its GHG emission goals. Under the Paris Agreement, Canada committed to reducing its GHG emissions by 30% below 2005 levels by 2030, and to achieving a net-zero electrical grid by 2035. The Government of Canada has also committed to achieving a prosperous net-zero emissions future by 2050.</p> <p>Because SMRs can provide a reliable, non-emitting source of baseload energy, they are seen as an important complement to the integration of intermittent renewable energy generation technologies, such as wind and solar. NRCan has indicated that Canada is well positioned to become a global leader in the development and deployment of SMR technology. As utilities reduce reliance on coal and move toward non-emitting energy production, provinces and</p>			

- s.20(1)(b)
- s.20(1)(c)
- s.20(1)(d)
- s.21(1)(b)
- s.21(1)(c)



utilities in Atlantic Canada have underscored the need to identify new, reliable energy generation options that can support baseload requirements.

- The Government of New Brunswick continues to reinforce its support of aSMR development and deployment in the province, as demonstrated through the 2023 Speech from the Throne, which stated “the growth in wind and new energy sources like hydrogen and small modular reactors offers investment opportunities for First Nation communities as well as attracting new business investment and job creation.”
- In November 2023, legislation was introduced which would not only exempt the first two SMRs from an existing law that forces NB Power to buy the cheapest source possible - it goes further, requiring the utility to choose nuclear-generated electricity once the reactors are up and running, at a premium. This indicates the continuing support to bring the aSMR designs to their deployment at Lepreau.
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COMPETITIVE IMPACT AND CHALLENGES

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s.20(1)(b)
s.20(1)(c)
s.20(1)(d)
s.21(1)(b)
s.21(1)(c)



Atlantic Canada
Opportunities
Agency

Agence de
promotion économique
du Canada atlantique

Canada

PREPARED BY	Luke Bulmer
PREPARED DATE	November 28 th , 2023

From: [Josh Jenkins](#)
To: [Crystal Hawkes](#)
Cc: [Jeanetta Hill](#); [Rima Thomeh](#); [Kalie Hatt-Kilburn](#);
Subject: RE: ****URGENT FOR ACTION**** MOLTEX PAF Approval
Sent: 1/8/2024 1:42:00 PM

Yes, will look at it shortly

From: Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>
Sent: Monday, January 8, 2024 1:24 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>; Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Subject: ****URGENT FOR ACTION**** MOLTEX PAF Approval
Importance: High

Hi Josh,

Are you able to take some time before 3 today to review the MOLTEX paf [Project: Project Assessment: Demonstrate the WATSS technology using spent CANDU fuel - Dynamics 365](#) and transition it up to Jeanetta and then Kalie. This has approved by Michel via email but nothing was done in CAPRI and We want to have kalie review today.

Thanks,

Crystal Hawkes

Executive Assistant to the Director General of Regional Operations, NB Region
Atlantic Canada Opportunities Agency / Government of Canada
crystal.hawkes@acoa-apeca.gc.ca /Tel:506-349-7340/TTY:1-877-456-6500

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Agence de promotion économique du Canada atlantique / Gouvernement du Canada
crystal.hawkes@acoa-apeca.gc.ca / Tel: 506-349-7340/ATS:1-877-456-6500

From: [Surphlis, Scott \(ISED/ISDE\)](#)
To: [Josh Jenkins](#); [Luke Bulmer](#);
Cc: [Hiscock, Julia \(ISED/ISDE\)](#); [Carleton, Danika \(ISED/ISDE\)](#); [Kavanagh, Steve \(ISED/ISDE\)](#);
Subject: RE: ACOA Moltex Lead
Sent: 10/5/2023 3:24:46 PM

Hi Josh – just a quick note to express many thanks for sharing this information with us! This was quite helpful and appreciated. We'll seek to keep you both looped in on any key takeaways from the meeting tomorrow and would be grateful if there are any updates from your side re: potential ACOA funding supports.

Thanks again!

Scott
scott.surphlis@ised-isde.gc.ca / (902) 483-4879

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: October 5, 2023 8:07 AM
To: Surphlis, Scott (ISED/ISDE) <Scott.Surphlis@ised-isde.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Cc: Hiscock, Julia (ISED/ISDE) <Julia.Hiscock@ised-isde.gc.ca>; Carleton, Danika (ISED/ISDE) <Danika.Carleton@ised-isde.gc.ca>; Kavanagh, Steve (ISED/ISDE) <steve.kavanagh@ised-isde.gc.ca>
Subject: RE: ACOA Moltex Lead

Hi Scott – Luke has been out sick, so in case he's not been able to respond I'm sending you the latest briefing we provided to our MINO on Moltex, from late September. See attached.

Hope it's helpful,

Josh

From: Surphlis, Scott (ISED/ISDE) <Scott.Surphlis@ised-isde.gc.ca>
Sent: Tuesday, October 3, 2023 6:32 PM
To: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Cc: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>; Hiscock, Julia (ISED/ISDE) <Julia.Hiscock@ised-isde.gc.ca>; Carleton, Danika (ISED/ISDE) <Danika.Carleton@ised-isde.gc.ca>; Kavanagh, Steve (ISED/ISDE) <steve.kavanagh@ised-isde.gc.ca>
Subject: RE: ACOA Moltex Lead
Importance: High

Hi Luke –

I hope you had a great week and start to your week! It's a pleasure to connect with you virtually. As Danika mentioned, I'm currently leading on the cleantech and energy portfolio for ISED's ATL-RO. Ahead of this week's meeting between our RDG and Moltex Energy's CEO, I wanted to quickly follow-up on the request below and inquire whether you had any notable background/ considerations that we could provide to inform our DGO.

From: [Josh Jenkins](#)
To: [Luke Bulmer](#); [Nathalie Cavanaugh](#);
Cc: [Danika LeBlanc](#)
Subject: RE: Connect- Melanie @ ONB
Sent: 2/7/2023 3:55:00 PM

Thanks Luke

From: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Sent: Tuesday, February 7, 2023 2:47 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>; Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Cc: Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>
Subject: RE: Connect- Melanie @ ONB

Good afternoon Josh,
Please find the update below:

SMR Supply Chain Update:

[ACOA QAccess - QA File ID:](#)

[220482](#)

- OCNI & ONB are continuing to work together on the group of 50+ SMEs who have expressed interest in participating in the SMR supply chain. This work has been delayed slightly as the online portal was left live for an additional two months, closing in December, likely due to slow uptake.
 - OCNI has hired _____ as their Regional Project Manager, to lead the Ready4SMR Supply Chain initiative with SMEs. _____ is based in Fredericton, his professional experience includes working with NBIF and RPC.
 - NB Power has been engaged to assist with the Nuclear Supply Chain approval process of SMEs, as they have existing licenses and abilities in this space. This alleviates some pressure from OCNI and the Province themselves (ONB, etc.) as they are no longer responsible for the bulk of this work.
 - This list will be further refined, and work will begin on a more 1:1 relationship with 20-30 SMEs who are more promising and easily integrated into the SMR Supply Chain based on current capabilities.
 - There appear to be 10-12 SMEs in NB who have very strong potential for significant supply chain involvement.
 - OCNI notes several SMEs as being less inclined to participate today as the work only truly begins in ~7 years, however, to get prepared, upskilled, acquire certifications and QA, new equipment, etc, they need to get engaged today. There may be a need to help further educate on the possible involvement that exists in the SMR Supply Chain.
- Moltex, the provincial Nuclear Secretariat and other stakeholders, including Indigenous groups, are beginning discussions around a Nuclear Cluster in New Brunswick, supported by the strong nuclear ecosystem in the region, which continues to grow.
 - This initiative also pairs nicely with SGIN lead discussions including UNB and other stakeholders around an Energy Cluster in the Atlantic Region, inspired by EnergyVille in Belgium. An Energy Cluster in Atlantic (NB) has unique potential for aSMR involvement.
- The 2023 Canadian Nuclear Society (CNS) Annual Conference is to be held in Saint John, June 4-7, at the Trade & Convention Centre. OCNI has inquired as to ACOA and GNB's willingness to have Ministers present for speaking opportunities, etc. More to come.

- This event cycles through locations, occurring in SJ every 5 years. Expected to be hosted again in 2028, much closer to SMR “go live”.
- at OCNI, has stated that Canada
continues to be regarded as the leader in the SMR space, and multiple countries have sent and plan on sending nuclear delegations to the country to learn from our experience and form relationships with our technology vendors and supply chains participants.
- Need to begin discussing a shared & collaborative approach to funding participating SMEs, with our provincial partners once the list is refined.
-
-

Apologies for the information overload, hopefully this provides good context for your discussion. Happy to discuss further!

Thanks,
-Luke

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Friday, February 3, 2023 9:31 AM
To: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Cc: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>
Subject: RE: Connect- Melanie @ ONB

Yes, I'd appreciate getting a quick update from Luke on the SMR supply chain project. A few bullets would be good on the status of the project (activities, next steps, etc)

Thanks

Josh

From: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Sent: Friday, February 3, 2023 9:29 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Subject: RE: Connect- Melanie @ ONB

Do we need to action anything on this before you meet w/her?

Nathalie Cavanaugh
Adjointe exécutive
Innovation, commerce et croissance des entreprises
Agence de promotion économique du Canada atlantique
(APECA)/Gouvernement du Canada
Nathalie.cavanaugh@acoa-apeca.gc.ca / 506-238-4142*Nouveau / ATS:**
7-1-1

s.19(1)

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

Executive Assistant
Innovation, Trade & Business Growth
Atlantic Canada Opportunities Agency (ACOA) / Government of Canada
Nathalie.cavanaugh@acoa-apeca.gc.ca / 506-238-4142*New/ TTY: 7-1-1**

From: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Sent: Thursday, February 2, 2023 11:52 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Subject: Connect- Melanie @ ONB

Pls see below.

Nathalie Cavanaugh
Adjointe exécutive
Innovation, commerce et croissance des entreprises
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(APECA)/Gouvernement du Canada
Nathalie.cavanaugh@acoa-apeca.gc.ca / 506-238-4142*Nouveau / ATS: 7-1-1**

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Innovation, Trade & Business Growth
Atlantic Canada Opportunities Agency (ACOA) / Government of Canada
Nathalie.cavanaugh@acoa-apeca.gc.ca / 506-238-4142*New/ TTY: 7-1-1**

From: Clark, Melanie (ONB) <Melanie.Clark@onbcanada.ca>
Sent: Thursday, February 2, 2023 11:40 AM
To: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Subject: RE: Connect

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Hi Nathalie,

Thanks for reaching out. Teams is perfect for this initial connection, essentially I would like to introduce my new team and the initiatives I am working on and a brief discussion on a current project discussion on a data capabilities platform.

- Introduction and overview to our new arm of Business; Major Accounts and Development
 - Supply Chain
 - India Action Plan
 - Major Accounts Management

- Discussion on Data Capabilities platform (Manufacturing)

Please let me know if you require any additional info.

Thanks
Melanie

From: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Sent: Thursday, February 2, 2023 9:37 AM
To: Clark, Melanie (ONB) <Melanie.Clark@onbcanada.ca>
Subject: Connect

Good Morning Melanie,

Just a couple of questions Josh was inquiring about. Could you please indicate which projects you were planning on discussing- whether it requires any prep work on his behalf.

Also, he will be in Fredericton on the 8th. Do you work out of Fredericton? If you prefer meeting F2F or we can keep it via Teams.

Thanks

Nathalie

Nathalie Cavanaugh
Adjointe exécutive
Innovation, commerce et croissance des entreprises
Agence de promotion économique du Canada atlantique
(APECA)/Gouvernement du Canada
Nathalie.cavanaugh@acoa-apeca.gc.ca / 506-238-4142*Nouveau / ATS:**
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Nathalie.cavanaugh@acoa-apeca.gc.ca / 506-238-4142*New/ TTY: 7-1-**
1

From: Clark, Melanie (ONB) <Melanie.Clark@onbcanada.ca>
Sent: Wednesday, February 1, 2023 11:01 AM
To: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Subject: RE: Connect

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Wednesday the 8th 1:30pm works.

Thanks

From: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Sent: Wednesday, February 1, 2023 10:48 AM
To: Clark, Melanie (ONB) <Melanie.Clark@onbcanada.ca>
Subject: RE: Connect

Hello Melanie,

Next week, this is what Josh has available:

Tuesday, Feb 7 – 3:30 – 4 pm

Wed- Feb 8 – 1:30 – 2 pm

Thurs – Feb 9 – 2:15 – 2:45 pm

Pls let me know.

Nathalie

Nathalie Cavanaugh
Adjointe exécutive
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Nathalie.cavanaugh@acoa-apeca.gc.ca / 506-238-4142*New/ TTY: 7-1-**
1

From: Clark, Melanie (ONB) <Melanie.Clark@onbcanada.ca>
Sent: Wednesday, February 1, 2023 10:12 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Subject: RE: Connect

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Perfect

Let me know what might work Nathalie, next week my afternoons are flexible as of now.

Thanks
Melanie

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Wednesday, February 1, 2023 8:46 AM
To: Clark, Melanie (ONB) <Melanie.Clark@onbcanada.ca>
Cc: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACOA-APECA.GC.CA>
Subject: RE: Connect

ATTENTION! External email / courriel externe.

Hi Melanie – yes, I'm sure we can find some time. I'll ask Nathalie to set something up for us – would 30 minutes be enough?

Josh

From: Clark, Melanie (ONB) <Melanie.Clark@onbcanada.ca>
Sent: Tuesday, January 31, 2023 4:30 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Subject: Connect

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Hi Josh,

I hope things are going well.

I am wondering if we could connect this week, I am working on a couple of projects I wanted to discuss.

I look forward to hearing from you.

Sincerely,

Melanie Clark

Director, Major Accounts and Development / Directrice, Comptes principaux et expansion
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Thanks for the clarification, Cori.

Looking forward to staying plugged into your work via Lynn, and to helping out when possible and appropriate,

Josh

Sent from my iPhone

On Jun 6, 2023, at 12:30 PM, Anderson, Cori <Cori.Anderson@nrcan-mcan.gc.ca> wrote:

From: [Josh Jenkins](#)
To: [Danika LeBlanc](#)
Subject: RE: Moltex Notes
Sent: 1/13/2023 3:53:00 PM

Thanks for this, Danika.

I understand there were some earlier misunderstandings that I thought got sorted out

Any additional intel you can provide would be helpful – thanks,

Josh

From: Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>
Sent: Friday, January 13, 2023 3:34 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Subject: FW: Moltex Notes

Hi Josh,

Here are a few notes for the Moltex call. Let me know if you need anything else.

Client:

Moltex is developing a first-of-its-kind technology that would safely, cleanly, and economically produce carbon-free electricity using spent nuclear waste within a Stable Salt Reactor (SSR). Canada has more than 2.8 million used nuclear fuel bundles with 90,000 added each year.

Current ACOA project:

[ACOA QAccess - QA File ID: 217315 / GX Number: 7046960 1 \(acoa-apeca.gc.ca\)](#)

“Demonstrate the Moltex SMR technology in a low-radioactive environment

Costs:

ACOA Assistance	\$3M
Claimed to date	\$1.2M

This project is part of a \$50.5M contribution from the Government of Canada (\$47.5M from SIF) announced in March 2021 to design and commercialize a molten salt reactor and spent fuel recycling facility.

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

Moltex Technology Suite:

<https://www.moltexenergy.com/technology-suite/>

“Moltex’s Stable Salt Reactor – Wasteburner (SSR-W), WAste To Stable Salt (WATSS) recycling process, and GridReserve thermal energy storage tanks together allow the generation of inexpensive electricity that can be dispatched as needed, complementing intermittent renewable sources such as wind and solar.”

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

From: [Josh Jenkins](#)
To: [Luke Bulmer](#)
Cc: [Kafa El Zamer](#); Josh Waite;
Subject: RE: Moltex PAF highlights
Sent: 12/1/2023 10:41:00 AM

Thanks for all your work on this Luke.

Josh

From: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Sent: Friday, December 1, 2023 10:41 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>
Subject: RE: Moltex PAF highlights

FYI – all updates completed; assessment is ready for MINO. Crystal has included it on the list. Please let me know if there is anything further required on this one!

Thank you,
-Luke

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Friday, December 1, 2023 7:20 AM
To: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>
Subject: FW: Moltex PAF highlights
Importance: High

Hi Luke – see attached for Kalie’s comments on the key benefits and rationale section of the PAF. Could you please incorporate her comments/address her questions in the PAF?

I think that will require us to re-validate and re-transition the PAF (I could be wrong here); if so please let us know and we’ll prioritize that this morning.

I’ll speak with Kalie about the NRCan / ISED call. My gut instinct is to stay the course with HO and the list process as the list doesn’t leave HO for MINO until Monday, which gives us the day to adjust if required. I’ll confirm all this with HO and keep you all posted,

Josh

From: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Sent: Thursday, November 30, 2023 7:29 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>

APECA.GC.CA>

Subject: RE: Moltex PAF highlights

Josh,

I've reviewed and have included a few comments/edits in track changes in the attached version. As I noted before, NRCan reached out to request a discussion and wants to have a meeting with ISED tomorrow prior to us moving this up. Lets connect tomorrow so that I can fill you in.

K.

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Thursday, November 30, 2023 5:30 PM

To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>

Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>

Subject: Moltex PAF highlights

Hi Kalie,

In speaking with Kafa, she mentioned you don't have access to our system to look at the PAF. Below I've cut and pasted the key benefits and rationale section (it's long but I've tried to make it as easily readable as possible, and it summarizes key pieces of analysis and due-diligence captured elsewhere in the PAF).

Kafa and I have transitioned the project in CAPRI in order to get it on the MINO list being generated tomorrow morning. However, if you have any questions or concerns please let me know and we can address them – thanks

Josh

Key Benefits & Rationale

BENEFITS

Small Modular Reactors are a potentially game-changing technology that could provide benefits for the economy, and bolster innovations and actions to reduce greenhouse gases. NB Power's nuclear division estimates that small nuclear reactors could add at least \$11 billion to the provincial GDP and that the small modular reactor (SMR) industry could provide \$1.2 billion in provincial tax revenues.

STRENGTHS

READINESS

TIMELINESS

The pressure is rising for Canada to reach its GHG emission goals. Under the Paris Agreement, Canada committed to reducing its GHG emissions by 30% below 2005 levels by 2030, and to achieving a net-zero electrical grid by 2035. The Government of Canada has also committed to achieving a prosperous net-zero emissions future by 2050.

Because SMRs can provide a reliable, non-emitting source of baseload energy, they are seen as an important complement to the integration of intermittent renewable energy generation technologies, such as wind and solar.

Natural Resources Canada (NRCan) has indicated that Canada is well positioned to become a global leader in the development and deployment of SMR technology.

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

As utilities reduce reliance on coal and move toward non-emitting energy production, provinces and utilities in Atlantic Canada have underscored the need to identify new, reliable energy generation options that can support baseload requirements. For instance, the Province of New Brunswick will no longer have the same generation capacity once the Belledune coal-fired generating station comes offline in 2030, and PLNGS reaches its end of life in 2040.

COLLABORATION

LINKS TO GOVERNMENT PRIORITIES

Canada - This initiative is aligned with the new ACOA Must-win Battle of Decarbonizing Atlantic Canada's grid and fostering energy innovation. - This project supports Government of Canada plans to reach its goal of reducing greenhouse gas emissions by 30% below 2005 levels by 2030, achieving a net-zero electricity grid by 2035, and to achieve net-zero emissions by 2050.

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

New Brunswick - The government of New Brunswick continues to reinforce its support of aSMR development and deployment in the province, as demonstrated through the 2023 Speech from the Throne which stated "the growth in wind and new energy sources like hydrogen and small modular reactors offers investment opportunities for First Nation communities as well as attracting new business investment and job creation," and through the Minister of Natural Resources and Energy Development, Mike Holland, "Small modular reactors (SMRs) will help us reduce our carbon emissions and provide reliable energy for New Brunswickers for years to come." - Recently, in November 2023, legislation was introduced which would not only exempt the first two SMRs from an existing law that forces the New Brunswick Power Corporation to buy the cheapest source possible - it goes further, requiring the utility to choose nuclear-generated electricity once the reactors are up and running, at a premium. This indicates the continuing support to bring the aSMR designs to their deployment at PLNGS. - New Brunswick signed an MOU with Ontario and Saskatchewan providing a commitment to collaborate on the development and deployment of SMR technologies.

KEY CONSIDERATIONS

CONCLUSION

Based on the evaluation of the potential benefits, key considerations and risks assessed through due diligence procedures, a conditionally repayable contribution of _____ is recommended under REGI. |

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

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Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626/ Cell: 506-227-9520 / TTY:1-877-456-6500

Directeur, Innovation, commerce et croissance des entreprises

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

Josh.Jenkins@canada.ca / Tél: 506-851-3626/ Cell: 506-227-9520 / ATS:1-877-456-6500

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

From: [Jeanetta Hill](#) on behalf of [Jeanetta Hill](#)
To: [Josh Jenkins](#); [Kalie Hatt-Kilburn](#);
Cc: [Kafa El Zamer](#)
Subject: RE: Moltex PAF highlights
Sent: 12/4/2023 9:00:31 AM

Thanks all – I have reviewed and note Kalie’s changes have been made.

This looks good – I have a couple of minor questions around coding and predisbursement and cond repayable clause – we can review at the check in today Josh, -

Thanks!
Jeanetta

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Friday, December 1, 2023 7:28 AM
To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>
Subject: RE: Moltex PAF highlights

Thanks Kalie – Luke will work to integrate your comments and address your questions in the PAF this morning.

I’m available this morning whenever you have some time to chat about the NRCan/ISED call.

I’m tempted to stay the course with the HO “list” process we’ve started, because it doesn’t leave HO for MINO until Monday which gives us the day to adjust/adapt to the call at noon. I’ll confirm all this with them this morning, but that’s my understanding based on our conversations with them to this point.

Please let me know if you have concerns with this approach,

Josh

From: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Sent: Thursday, November 30, 2023 7:29 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>
Subject: RE: Moltex PAF highlights

Josh,

I’ve reviewed and have included a few comments/edits in track changes in the attached version. As I noted before, NRCan reached out to request a discussion and wants to have a meeting with ISED tomorrow prior to us moving this up. Lets connect tomorrow so that I can fill you in.

K.

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Thursday, November 30, 2023 5:30 PM
To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>
Subject: Moltex PAF highlights

Hi Kalie,

In speaking with Kafa, she mentioned you don't have access to our system to look at the PAF. Below I've cut and pasted the key benefits and rationale section (it's long but I've tried to make it as easily readable as possible, and it summarizes key pieces of analysis and due-diligence captured elsewhere in the PAF).

Kafa and I have transitioned the project in CAPRI in order to get it on the MINO list being generated tomorrow morning. However, if you have any questions or concerns please let me know and we can address them – thanks

Josh

Key Benefits & Rationale

BENEFITS

Small Modular Reactors are a potentially game-changing technology that could provide benefits for the economy, and bolster innovations and actions to reduce greenhouse gases. NB Power's nuclear division estimates that small nuclear reactors could add at least \$11 billion to the provincial GDP and that the small modular reactor (SMR) industry could provide \$1.2 billion in provincial tax revenues.

s.20(1)(b)

s.21(1)(b)

s.21(1)(c)

STRENGTHS

READINESS

TIMELINESS

The pressure is rising for Canada to reach its GHG emission goals. Under the Paris Agreement, Canada committed to reducing its GHG emissions by 30% below 2005 levels by 2030, and to achieving a net-zero electrical grid by 2035. The Government of Canada has also committed to achieving a prosperous net-zero emissions future by 2050.

Because SMRs can provide a reliable, non-emitting source of baseload energy, they are seen as an important complement to the integration of intermittent renewable energy generation technologies, such as wind and solar.

Natural Resources Canada (NRCan) has indicated that Canada is well positioned to become a global leader in the development and deployment of SMR technology.

As utilities reduce reliance on coal and move toward non-emitting energy production, provinces and utilities in Atlantic Canada have underscored the need to identify new, reliable energy generation options that can support baseload requirements. For instance, the Province of New Brunswick will no longer have the same generation capacity once the Belledune coal-fired generating station comes offline in 2030, and PLNGS reaches its end of life in 2040.

COLLABORATION

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

LINKS TO GOVERNMENT PRIORITIES

Canada - This initiative is aligned with the new ACOA Must-win Battle of Decarbonizing Atlantic Canada's grid and fostering energy innovation. - This project supports Government of Canada plans to reach its goal of reducing greenhouse gas emissions by 30% below 2005 levels by 2030, achieving a net-zero electricity grid by 2035, and to achieve net-zero emissions by 2050.

New Brunswick - The government of New Brunswick continues to reinforce its support of aSMR development and deployment in the province, as demonstrated through the 2023 Speech from the Throne which stated "the growth in wind and new energy sources like hydrogen and small modular reactors offers investment opportunities for First Nation communities as well as attracting new business investment and job creation," and through the Minister of Natural Resources and Energy Development, Mike Holland, "Small modular reactors (SMRs) will help us reduce our carbon emissions and provide reliable energy for New Brunswickers for years to come." - Recently, in November 2023, legislation was introduced which would not only exempt the first two SMRs from an existing law that forces the New Brunswick Power Corporation to buy the cheapest source possible - it goes further, requiring the utility to choose nuclear-generated electricity once the reactors are up and running, at a premium. This indicates the continuing support to bring the aSMR designs to their deployment at PLNGS. - New Brunswick signed an MOU with Ontario and

s.20(1)(b)
s.20(1)(c)
s.21(1)(b)
s.21(1)(c)

Saskatchewan providing a commitment to collaborate on the development and deployment of SMR technologies.

KEY CONSIDERATIONS

CONCLUSION

Based on the evaluation of the potential benefits, key considerations and risks assessed through due diligence procedures, a conditionally repayable contribution of _____ is recommended under REGI.

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626 / Cell: 506-227-9520 / TTY:1-877-456-6500

s.20(1)(b)

Directeur, Innovation, commerce et croissance des entreprises

s.20(1)(c)

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

s.21(1)(b)

s.21(1)(c)

Josh.Jenkins@canada.ca / Tél: 506-851-3626 / Cell: 506-227-9520 / ATS:1-877-456-6500

From: [Roger Miranda](#) on behalf of [Roger Miranda](#)
To: [Josh Jenkins](#)
Cc: [Jeanetta Hill](#); [Rima Thomeh](#);
Subject: RE: Moltex Project Overview - ACOA Application for funding
Sent: 1/11/2024 11:05:20 AM

Thanks so much for this Josh and for the quick turnaround.

Roger

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Thursday, January 11, 2024 10:56 AM
To: Roger Miranda <Roger.Miranda@acoa-apeca.gc.ca>
Cc: Jeanetta Hill <Jeanetta.Hill@ACO-APECA.GC.CA>; Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>
Subject: RE: Moltex Project Overview - ACOA Application for funding

Hi Roger,

Here's some additional information that may be helpful:

Technologies

ARC's SMR design is based on an existing technology (from a US national laboratory), and so is considered to be at a fairly advanced technology readiness level (meaning it's expected to be ready for deployment relatively soon – by 2029). Its output is only 100MW, making it ideal for industrial applications.

Moltex is a dual-technology company, combining a novel spent-fuel recycling technology with an SMR designed to re-use the spent fuel.

Funding

In 2021, the federal government provided over \$50M in direct financial support to Moltex, via ISED's SIF program (\$47.5M) as well as ACOA (\$3M). A key consideration for federal support was the novel fuel-recycling technology and its potential to mitigate liabilities arising from long-term storage of spent nuclear fuel.

Also in 2021, the province of NB provided \$20M in direct financial support to ARC. A key driver in the province's decision to fund was the relatively advanced state of the technology and potential deployment date before 2030 (in addition to the federal support in place for Moltex).

Additionally, the province of NB had provided \$5M each to both ARC and Moltex in 2018 via the NB Energy Solutions Corporation, a provincial crown corporation which has since been shut down.

Current Position

The province of NB, through NB Power, remains supportive of both SMR companies and is leading the planning and preparation for the deployment of **both** SMR designs at Point

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

Lepreau. Examples of this work include the recent regulatory reform mandating the utility to purchase power from SMRs regardless of initial costs, and the inclusion of an additional 450MW of SMR power by 2035 in the NB Energy Strategy.

NB Power provides additional, ongoing operational support to Moltex in the form of advice/guidance/engineering support through their nuclear energy division.

Hope this is helpful; please let me know if you have any additional questions,

Josh

From: Roger Miranda <Roger.Miranda@acoa-apeca.gc.ca>
Sent: Thursday, January 11, 2024 9:30 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Jeanetta Hill <Jeanetta.Hill@ACO-APECA.GC.CA>; Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>
Subject: FW: Moltex Project Overview - ACOA Application for funding
Importance: High

Hi Josh,

Would you be able to address the questions below please?

Thanks,
Roger Miranda

From: Christopher Haley <Christopher.Haley@acoa-apeca.gc.ca>
Sent: Thursday, January 11, 2024 9:22 AM
To: Jeanetta Hill <Jeanetta.Hill@ACO-APECA.GC.CA>; Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>; Roger Miranda <Roger.Miranda@acoa-apeca.gc.ca>
Cc: Nicholas Charney <Nicholas.Charney@acoa-apeca.gc.ca>
Subject: FW: Moltex Project Overview - ACOA Application for funding
Importance: High

Hey folks,

Please see Moltex questions below – can you please advise?

Thanks!

Chris

From: Jacob Beal <Jacob.Beal@acoa-apeca.gc.ca>
Sent: Wednesday, January 10, 2024 10:10 PM
To: Nicholas Charney <Nicholas.Charney@acoa-apeca.gc.ca>; Christopher Haley

s.20(1)(b)

s.21(1)(b)

<Christopher.Haley@acoa-apeca.gc.ca>

Subject: FW: Moltex Project Overview - ACOA Application for funding

Hey gentlemen,

Can you ask Jeanetta some of these questions and or statements between Allie and I? Hoping the context helps find the answer.

Cheers,

Jake

Hoping all this context helps you provide me the information Allie is looking for?

Cheers,

Jake

From: Allie Chalke <Allie.Chalke@acoa-apeca.gc.ca>

Sent: Wednesday, January 10, 2024 9:10 PM

To: Jacob Beal <Jacob.Beal@acoa-apeca.gc.ca>

Cc: Neil MacIsaac <Neil.MacIsaac@acoa-apeca.gc.ca>; Emily Walsh <Emily.Walsh@acoa-apeca.gc.ca>; Suzanne O'Malley <Suzanne.OMalley@acoa-apeca.gc.ca>

Subject: Re: Moltex Project Overview - ACOA Application for funding

In collaboration with
Canadian Nuclear Labs (CNL), Natural Resources
Canada (NRCAN), Innovation, Science and
Economic Development (ISED), and other federal
and provincial partners,

s.20(1)(b)

s.21(1)(b)

s.20(1)(b)

s.21(1)(b)

From: [Josh Jenkins](#)
To: [Poupore, Jessica](#)
Cc: [Brady, Daniel](#); [Jackson, Candice](#);
Subject: RE: Request for review and advice -
Sent: 11/2/2023 11:55:00 AM

Yes, I could be

From: Poupore, Jessica <Jessica.Poupore@NRCan-RNCan.gc.ca>
Sent: Thursday, November 2, 2023 11:31 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Brady, Daniel <daniel.brady@NRCan-RNCan.gc.ca>; Jackson, Candice <Candice.Jackson@nrca-rnca.gc.ca>
Subject: RE: Request for review and advice -

UNCLASSIFIED - NON CLASSIFIÉ

Hi Josh,

Are you available at 2:30pm EST today?

Thanks,
Jessica

Jessica Poupore
(she/her/elle)

A/Deputy Director, S&T / Directrice adjointe p.i., science et technologie
Nuclear Energy Division / Division de l'énergie nucléaire

Natural Resources Canada - Government of Canada
Ressources naturelles Canada - Gouvernement du Canada
jessica.poupore@nrca-rnca.gc.ca Mobile: 613-292-8981

From: Jackson, Candice <Candice.Jackson@nrca-rnca.gc.ca>
Sent: Thursday, November 2, 2023 10:22 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Poupore, Jessica <Jessica.Poupore@NRCan-RNCan.gc.ca>
Subject: RE: Request for review and advice -

UNCLASSIFIED - NON CLASSIFIÉ

s.20(1)(b)
s.20(1)(c)
s.21(1)(b)
s.21(1)(c)

Hi Josh,

Sincere apologies for the delay. Jessica team and my shop are highly interconnected – therefore, I am not sure that I would have any additional insights to provide on the technical aspect –

As I understand, Jessica will be reaching out to schedule a follow up call – following the recent meeting I understood occurred with GAC.

Cheers,
Candice

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Friday, October 27, 2023 12:55 PM
To: Jackson, Candice <Candice.Jackson@nrca-nrcan.gc.ca>
Subject: RE: Request for review and advice -

UNCLASSIFIED - NON CLASSIFIÉ

Hi Candice – following up on this, would appreciate a quick check in with you – thanks

Josh

From: Josh Jenkins
Sent: Wednesday, October 25, 2023 3:22 PM
To: Jackson, Candice <Candice.Jackson@nrca-nrcan.gc.ca>
Subject: FW: Request for review and advice -

Hi Candice,

Would you have 10-15 minutes at some point tomorrow to connect quickly on the below opinion? Just want to get your thoughts on some of the broader issues we discussed previously – thanks,

Josh

From: Poupore, Jessica <Jessica.Poupore@NRCan-RNCan.gc.ca>
Sent: Thursday, October 19, 2023 4:59 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Beauregard-Tellier, Frédéric <frederic.beauregardtellier@nrca-nrcan.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>; Marie Thibeault <Marie.Thibeault@ACOA-APECA.GC.CA>; Brady, Daniel <daniel.brady@NRCan-RNCan.gc.ca>; Jackson, Candice <Candice.Jackson@nrca-nrcan.gc.ca>; Robibero, Erica <erica.robibero@NRCan-RNCan.gc.ca>; Ottaway, Chelsea <chelsea.ottaway@NRCan-RNCan.gc.ca>
Subject: RE: Request for review and advice -

UNCLASSIFIED - NON CLASSIFIÉ

s.21(1)(a) Hi Josh,
s.21(1)(b)
s.21(1)(c)

I trust this is helpful. Happy to answer questions or provide clarification.

Best regards,
Jessica

Jessica Poupore
(she/her/elle)

A/Deputy Director, S&T / Directrice adjointe p.i., science et technologie
Nuclear Energy Division / Division de l'énergie nucléaire

Natural Resources Canada - Government of Canada
Ressources naturelles Canada - Gouvernement du Canada
jessica.poupore@nrcan-rncan.gc.ca Mobile: 613-292-8981

From: Jackson, Candice <Candice.Jackson@nrcan-rncan.gc.ca>
Sent: Wednesday, September 27, 2023 3:49 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Beauregard-Tellier, Frédéric <frederic.beauregardtellier@nrcan-rncan.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>; Marie Thibeault <Marie.Thibeault@ACOA-APECA.GC.CA>; Brady, Daniel <daniel.brady@NRCan-RNCan.gc.ca>; Poupore, Jessica <Jessica.Poupore@NRCan-RNCan.gc.ca>; Robibero, Erica <erica.robibero@NRCan-RNCan.gc.ca>; Ottaway, Chelsea <chelsea.ottaway@NRCan-RNCan.gc.ca>
Subject: RE: Request for review and advice -

UNCLASSIFIED - NON CLASSIFIÉ

s.20(1)(b) Hi Josh,
s.21(1)(a)
s.21(1)(b)
s.21(1)(c)

Thank you for reaching out and for our continued dialogue. This email serves to acknowledge your request for the Nuclear Energy Division to support ACOA New Brunswick

We have quite a few folks out of office this week, but we will circle back next week with next steps.

Thanks again for the continued collaboration!
Candice

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Wednesday, September 27, 2023 3:28 PM
To: Jackson, Candice <Candice.Jackson@nrcan-rncan.gc.ca>
Cc: Beauregard-Tellier, Frédéric <frederic.beauregardtellier@nrcan-rncan.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>; Marie Thibeault <Marie.Thibeault@ACOA-APECA.GC.CA>
Subject: Request for review and advice -

Hi Candice,

As we've previously discussed,

s.20(1)(b)

s.21(1)(a)

s.21(1)(b)

s.21(1)(c)

000947

ACOA, while acknowledging we do not have the technical knowledge or expertise in this field, understand the important role a spent fuel technology, such as WATSS, would play in a global fleet of CANDU reactor's waste management practices; reducing the cost, volume, and toxicity of spent nuclear waste while producing low/no carbon electricity at low-cost, and bringing economic benefits and opportunities to the region and country at large.

We look forward to receiving a review _____ and will make ourselves available for any discussions or clarifications needed in order to facilitate a timely response, noting the pace which is required to support the ongoing development of the technology,

Thank you very much,

Josh Jenkins

s.20(1)(b)

s.21(1)(a)

s.21(1)(b)

s.21(1)(c)

From: [Josh Jenkins](#)
To: [Heath Johnson](#)
Subject: FW: Used fuel reprocessing working group / Groupe de travail sur le retraitement des combustibles usés
Attachments: NRCanBrief_UsedFuelReprocessing_Nov2023.docx
Sent: 2/23/2024 8:20:00 AM

Hi Heath – see below and attached...

I'm not sure we need to participate, as opposed to simply be kept apprised of the group's work. As funders of projects, and not experts, I'm not sure we'd have much to contribute.

What are your thoughts?

Josh

From: Poupore, Jessica
Sent: Thursday, February 22, 2024 4:18 PM
To: Josh Jenkins
Subject: FW: Used fuel reprocessing working group / Groupe de travail sur le retraitement des combustibles usés

PROTECTED B - PROTÉGÉ B

Hi Josh,

NRCan is convening an interdepartmental working group. See the details below.

ISED was invited but sorry that we didn't have RDAs on the radar for this.

The working group kick-off is tomorrow morning. I will send you the invite. Apologies for the short notice! If you're not able to attend tomorrow but interested in being involved, I will let the organizers know.

Best regards,

Jessica

Jessica Poupore

(she/her/elle)

Senior S&T Advisor / Conseillère principale en science et en technologie

Nuclear Energy Division / Division de l'énergie nucléaire

Natural Resources Canada - Government of Canada

Ressources naturelles Canada - Gouvernement du Canada

jessica.poupore@nrcan-rncan.gc.ca Mobile: 613-292-8981

From: Ravary, Liz <liz.ravary@nrcan-rncan.gc.ca> **On Behalf Of** Beauregard-Tellier, Frédéric

Sent: Monday, December 18, 2023 3:58 PM

To: Tanya.Hinton@international.gc.ca; naina.thoppil@international.gc.ca;

alison.grant@international.gc.ca; duck.kim@ec.gc.ca; mary.taylor@ec.gc.ca; Elizabeth.White-Senack@ised-isde.gc.ca;

paul.okeefe@ised-isde.gc.ca; julia.cropley@cnsccsn.gc.ca;

genevieve.boudrias@cnsccsn.gc.ca; lee.brunarski@cnsccsn.gc.ca; deboraquayle@hc-sc.gc.ca;

marc.desrosiers@hc-sc.gc.ca; Daniel.Daigle@tc.gc.ca; david.lamarche@tc.gc.ca

Cc: Prosser, Kathleen <Kathleen.Prosser@NRCan-RNCan.gc.ca>; Yuen, Pui Wai

<puiwai.yuen@NRCan-RNCan.gc.ca>; Fairchild, Jamie <jamie.fairchild@NRCan-RNCan.gc.ca>;

Wilkinson, David <david.wilkinson@NRCan-RNCan.gc.ca>; Wittmann, Tess (she, her | elle, elle)

<tess.wittmann@nrcan-rncan.gc.ca>; Rector, Brianna (she, her | elle, la) <brianna.rector@nrcan-rncan.gc.ca>;

Poupore, Jessica <Jessica.Poupore@NRCan-RNCan.gc.ca>; Beauregard-Tellier,

Frédéric <frederic.beauregardtellier@nrcan-rncan.gc.ca>

Subject: Used fuel reprocessing working group / Groupe de travail sur le retraitement des combustibles usés

PROTECTED B - PROTÉGÉ B

Dear colleagues,

I am writing to invite representatives from your department to participate in a working level working group on the subject of used fuel reprocessing.

Canada does not have a policy or a formal internal analysis on commercial reprocessing, including used fuel processing. While nuclear energy and technology, and nuclear non-proliferation, are key to this area, this is a subject that crosses the mandates of many departments. The efforts of this working group, lead by NRCan, will generate a thorough and well documented internal analysis on used fuel reprocessing to support future decisions related to Canada's nuclear fuel cycle.

This work does not constitute the development of a policy for used fuel reprocessing but is rather a consolidation of the federal government's efforts to understand the risks and benefits associated with the technology. A description of the planned analysis, and the rationale for this undertaking, can be found in the attached Brief.

If you could please have members of your team who are interested and able to participate complete the below poll, we would be grateful to launch this work before the holiday season.

Thank you for your support and expertise on the matter as we develop a better understanding of the risks and benefits of used fuel reprocessing from all perspectives within the Government of Canada.

Kind regards,

Frédéric Beauregard-Tellier

Director General, Nuclear Energy and Infrastructure Security Branch

Energy Systems Sector

Natural Resources Canada / Government of Canada

frederic.beauregardtellier@nrcan-rncan.gc.ca / Tel: 613-769-3208

Chers collègues,

Je vous écris pour inviter des représentants de votre département à participer à un groupe de travail sur le retraitement de combustible nucléaire usé.

Le Canada n'a pas de politique ni d'analyse interne formelle sur le retraitement commercial, y compris le traitement des combustibles usés. Bien que l'énergie et la technologie nucléaires, ainsi que la non-prolifération nucléaire, soient essentielles dans ce domaine, il s'agit d'un sujet qui recoupe les mandats de nombreux ministères. Les efforts de ce groupe de travail, dirigé par RNCan, produiront une analyse interne approfondie et bien documentée sur le retraitement de combustible nucléaire usé afin d'étayer les décisions futures relatives au cycle du combustible nucléaire au Canada.

Ce travail ne constitue pas l'élaboration d'une politique pour le retraitement de combustible nucléaire usé, mais plutôt une consolidation des efforts du gouvernement fédéral pour comprendre les risques et les avantages associés à cette technologie. Une description de l'analyse prévue et de la raison d'être de cette entreprise se trouve dans le mémoire ci-joint (en anglais seulement).

Si vous pouviez demander aux membres de votre équipe qui sont intéressés et en mesure de participer de remplir le questionnaire ci-dessous, nous vous serions reconnaissants de lancer ce travail avant les fêtes de fin d'année.

Nous vous remercions de votre soutien et de votre expertise en la matière, car nous cherchons à mieux comprendre les risques et les avantages du retraitement de combustible nucléaire usé en tenant compte de tous les points de vue au sein du gouvernement du Canada.

Je vous remercie de votre collaboration,

Frédéric Beauregard-Tellier

Directeur général, direction de l'énergie nucléaire et de la sécurité des infrastructures

Secteur des systèmes énergétiques

Ressources naturelles Canada / Gouvernement du Canada

Frederic.beauregardtellier@nrcan-mcan.gc.ca / Tél: 613-769-3208

Reprocessing Brief – November 2023

A Framework for Used Fuel Reprocessing: an analysis to support future decisions related to Canada's nuclear fuel cycle.

ISSUE: Canada does not have a specific policy or a formal internal analysis on commercial reprocessing, including used fuel processing. A series of public statements qualifying used fuel processing under a variety of funding sources (investment tax credits, strategic innovation fund contribution) has also resurfaced this sensitive topic in the public and media domain. **As we look to build out the next generation of nuclear, it is important that the Government of Canada is well positioned to make informed decisions related to all aspects of nuclear energy, including advanced nuclear fuel cycles. The proposed framework will be a thorough and well documented internal analysis to support future policies/decisions on reprocessing.**

The proposed path forward will be particularly important if Canada realizes its full nuclear ambitions, as these installations will have a significant impact on the volumes of extracted resources and the corresponding used nuclear fuel, potentially influencing the value of a closed vs. open nuclear fuel cycle in the decades to come. Work done today in the development of a framework to understand reprocessing will enable future sound and rational choices about this evolving technology and its role in the nuclear energy landscape. **This work does not constitute the development of a policy for used fuel reprocessing, rather the documentation of the federal governments efforts to understand the risks and benefits associated with the technology.**

An advanced nuclear fuel cycle in Canada – considerations for an open or a closed fuel cycle.

The question on if to reprocess used nuclear fuel is that of an open or closed fuel cycle – a once through utilization of fuel [current status quo for CANDU reactors] or a cycle that implements recycling of fuel [advanced fuel cycle – requires reprocessing]. The consideration of implementing a closed fuel cycle is one for the long term; Canada's current nuclear used fuel and waste management may not benefit enormously from used fuel reprocessing due to our rich uranium deposits and uniform fleet, but our growing plans for nuclear deployment may influence the value and utility of commercial used fuel reprocessing.

- This exercise should not be considered as the Government of Canada taking any initiative towards the implementation of reprocessing, or a closed fuel cycle. This is an exercise in due diligence for long-term planning related to Canada's nuclear sector.
- The deployment of used nuclear fuel reprocessing is a sensitive topic of discussion due in large part to the proliferation risks and associated safeguards, and the novel, and likely complex, radioactive waste streams. The proposed analysis will evaluate both risks and benefits.

What are the objectives in completing this work?

- In Canada, matters that relate to nuclear activities and substances are under the jurisdiction of the Government of Canada. NRCAN is responsible for determining Canada's domestic nuclear energy policies, including those that concern radioactive waste and fuel. This would also include reprocessing.
- Current policies that relate to reprocessing include:
 - Policy for Radioactive Waste Management and Decommissioning
 - Policy on Enrichment
 - Nuclear Non-Proliferation Policy [GAC lead]

Reprocessing Brief – November 2023

Proposed approach for development of a framework for reprocessing:

In the 1973 uranium enrichment policy, the Government of Canada issued a policy statement that sets out its “attitude towards the establishment of uranium enrichment facilities in Canada”, and was based on a study that concluded in 1971. The statement indicates that if an enrichment plant proposal was shown to be in the national interest, the government would consider such proposals against a set of factors. Considering a proposal in the mid-1970s, an MC was prepared that outlines that these factors were assessed by an interdepartmental committee of the day, concluding that “the construction of an enrichment plant in Canada [to produce enriched uranium] for the export market is less attractive in 1976 than in 1971. **However, there is potential for a Canadian enrichment plant in future.**” This analysis demonstrated the utility of the technology agnostic, proposal specific, uranium enrichment policy.

Ongoing work proposes the use of a similar approach for developing a documented analysis for used fuel reprocessing in Canada. This utilizes the factors set out in the uranium enrichment policy as a baseline, updating them to generate a set of criteria that are more relevant to Canada’s modern frameworks and standards. Initial work will assess these criteria, outlined below, developing a corresponding set of discussion papers to lay the groundwork for any future policy development related to used fuel reprocessing. This will provide the Government of Canada with the detail and information necessary to make informed decisions related to reprocessing in Canada and determine strategies and paths forwards for any future public facing policy initiatives in the space, should the need exist.

The short list of criteria for consideration under the analysis framework for reprocessing in Canada:

- Energy Security - Supply and demand for uranium and the implications of different fuel cycles
- Reprocessing technologies
- Power supply requirements [Grid]
- Environmental effect
- Economic and cost-benefit analysis for a plant, competitiveness
- Regulatory situation
- Incentives for investors
- Resource and industrial development
- Non-Proliferation and safeguarding
- Import and Exports
- International and regional relations on reprocessing
 - Includes indigenous and host communities

Reprocessing Brief – November 2023

Next steps and summary of approach

Short term (1-2 months):

- Reach out to OGD colleagues (GAC, ECCC, CNSC, ISED, TC, HC) to establish working level working group, commitment to participate and contribute.
- Kick-off meeting seeking consensus and comment on proposed workplan and criteria, establishing clear scope of work.
- Finalize criteria framework for internal analysis.

Medium term (3-6 months):

- Draft papers and analysis undertaken for each criterion.
- Consult and collaborate with relevant departments for each analysis – for example – GAC on non-proliferation, CNSC on regulatory frameworks.

Long term (6-10 months)

- Finalize analysis, develop executive summary document outlining conclusions, in consultation with relevant departments.
- Consolidate findings into analysis framework mirroring 1970s enrichment policy.
- Assessment of current internal and external conditions to determine if a public process is desired/needed:
 - If yes, proceed with planning for transparent, public facing policy-development process, utilizing completed analysis to inform discussion papers and engagement materials.
 - If no, circulate internal analysis with OGD colleagues and create formal note to file for NRCan that articulates internal results.

Outcome at 10-12 months: informed internal analysis on commercial used fuel reprocessing in Canada over the short, medium, and long term, with well supported documentation that, should the need arise, can be used to develop a public facing position for the broader Government of Canada. Work to this point is maintained exclusively within the federal family, and remains consistent with, and cognizant of, other domestic and international objectives within the nuclear fuel cycle (accessing enriched materials to meet the immediate needs of SMR deployments). Any steps towards policy development would be sought from the government of the time, including consideration for an open and transparent engagement with the public, interested Canadians, Indigenous Peoples, and industry.

Additional materials:

- ANNEX A: Canada's Uranium Enrichment Policy
- ANNEX B: Work plan summary for the analysis related to used fuel reprocessing

From: [Laura DeLong](#)
To: [Josh Jenkins](#); [Heath Johnson](#);
Cc: [Luke Bulmer](#); [Lindsay Walker](#);
Subject: RE: Correspondence on SMR Impact Assessment
Attachments: SMRs - information
Sent: 7/7/2022 11:19:25 AM

Hey folks: Happy to assist however I can – please note that I am in a training session this afternoon (2pm onward) and on leave tomorrow.
In terms of previous SMR related media lines and information - it can be found on the SharePoint here. [Small Modular Reactors - All Documents \(acoa-apeca.gc.ca\)](#)
I've also attached the email I sent to Josh (that he references below) with the attachments that include an SMR Backgrounder and an overview of the SMR Action Plan.
Laura

From: Josh Jenkins
Sent: Thursday, July 7, 2022 9:02 AM
To: Heath Johnson
Cc: Luke Bulmer ; Laura DeLong
Subject: FW: Correspondence on SMR Impact Assessment
Hi Heath – see below... let's discuss on our call later this morning.
Laura had shared some materials with me a few months ago that may be a good place to start (especially if they've been updated since).
I'll send you an example of the letters the Minister has been getting in a separate email.
Josh

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Wednesday, July 6, 2022 5:53 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>
Subject: FW: Correspondence on SMR Impact Assessment
Hi Josh

There are some concerns being raised by public based on the perception that there is not going to be a formal Impact Assessment around a potential SMR demonstration site at Point Lepreau. While we no funds in the development of the site – can I have a few points on our role with SMR and the NB Power project that is currently in disbursement.
I suggest by **Friday noon** if that is reasonable. MINO office is receiving a number of letters in this regard and would like to have some briefing lines from us.
We may already have an SMR briefing = feel free to check with policy on a ready product that may just need some tweaking.
Thanks
J

From: Martine Cantin <Martine.Cantin@ACOA-APECA.GC.CA>
Sent: Wednesday, July 6, 2022 4:56 PM
To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>

Cc: Christopher Haley <Christopher.Haley@acoa-apeca.gc.ca>

Subject: RE: Correspondence on SMR Impact Assessment

Hi Jeanetta,

I just talked to MINO and this will probably be responded by Min Guilbeault. However, we are wondering if you could prepare a few lines in an email or a backgrounder – whichever is easier – on:

- Our involvement in that field
- Any intel you may have on the issue raised in the letter

Do not hesitate if you have any questions.

Thank you!

m.

De : Martine Cantin

Envoyé : 6 juillet 2022 16:01

À : Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>

Objet : TR: Correspondence on SMR Impact Assessment

Hi Jeanetta, here is a sample letter.

From: [Laura DeLong](#)
To: [Josh Jenkins](#)
Cc: [Lindsay Walker](#)
Subject: SMRs - information
Attachments: Backgrounder-SMRs.docx;SMR Action Plan Atlantic Context
12.21.2020.docx;
Sent: 5/5/2022 9:33:00 AM

Josh: it was wonderful to meet you all in the Miramichi.

I know you are all likely well informed about SMRs, but as promised, I'm sharing some of the information I have prepared on the topic that I mentioned in conversation to you yesterday. Note that given how quickly things change on this file, some might be outdated now – all was (of course) current at the date it was written.

- A background for the Minister that was drafted on January 27th
- Video on SMRs in New Brunswick – shared at the Canadian Nuclear Association's Conference held (in person) in Ottawa, April 13-15, 2022
<https://www.youtube.com/watch?v=c-OB4MMS89U>
- SMR Action Plan Atlantic Context from 2020

I have lots of other one pagers, information notes, etc. on various aspect of 'greening' and the 'green economy'.

Happy to share any of that with you too if its of interest.

Laura

From: [Danika LeBlanc](#)
To: [Kalie Hatt-Kilburn](#); [Patrick Lacroix](#); [Josh Jenkins](#);
Cc: [Kafa El Zamer](#); [Jeanetta Hill](#); [Luke Bulmer](#);
Subject: RE: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project
Attachments: FW: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project
Sent: 10/25/2022 11:59:15 AM

Sorry about that Kalie,
I've attached the original emails with attachments.

Danika LeBlanc, CPA, CGA

From: Kalie Hatt-Kilburn
Sent: Tuesday, October 25, 2022 11:16 AM
To: Danika LeBlanc ; Patrick Lacroix ; Josh Jenkins
Cc: Kafa El Zamer ; Jeanetta Hill ; Luke Bulmer
Subject: RE: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hi Danika,

I'm ok with the response below. Did you also want me to look at the attachment? If so, could you please send it along?

Thanks,
Kalie

From: Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>
Sent: Tuesday, October 25, 2022 10:27 AM
To: Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>; Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Subject: RE: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Thank you Patrick,

You can absolutely share with Laura.

I've copied Kalie.

Danika LeBlanc, CPA, CGA

From: Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>
Sent: Tuesday, October 25, 2022 10:20 AM
To: Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>; Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Subject: RE: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Thank you Danika, your response seems to address their request very well and thoroughly. I will let Josh chime in.

Can I share with Laura DeLong. I would suggest Kalie should have a look as per her involvement with SMRs

Time is of the essence as this is due today,
Thank you for all your respective work on this,
Patrick

From: Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>

Sent: October 25, 2022 10:00 AM

To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Cc: Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>

Subject: FW: For NB: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Importance: High

Good morning Josh,

I'm sharing with you our proposed responses to the request from the Impact Assessment Agency of Canada (IAA) regarding a request sent to the Minister of Environment and Climate Change to designate the Small Modular Reactor Demonstration Project at Point Lepreau, NB. We don't have any experience in answering this type of request from IAA so I'm not sure what level of authority or review is required in the response. Luke was in touch with HO Programs on this one. Our PSPC lead information us that we would be responsible to complete and return the form directly to IAA. The IAA requested our response by today, **October 25**. We've had quite a bit of back and forth between HO and PSPC which caused delays in getting the package ready.

Background:

On July 4th, 2022, the IAA received a request from the Coalition for Responsible Energy Development in NB (CRED-NB) to designate NB Power's SMR demonstration project for a federal impact assessment. Currently, the threshold for nuclear projects requiring an impact assessment exempts SMRs from a federal impact assessment. However, CRED-NB submits that the designation for the proposed NB Power project is warranted based on two conditions: a) the project is not prescribed by regulations and carrying out the activity will result in adverse effects within federal jurisdiction as well as adverse direct or incidental effects; and b) there are significant public concerns related to those effects.

I've attached the documents we received from IAAC for additional context. Our responses are included in the attachment "[ACOA – Request for Designation under IAA...](#)"

Here is what we propose as the body of the email to be sent with our response:

Hello Joseph,

Please find attached the completed Request for Federal Expert Advice, in relation to the Designation Request for the Proposed Small Modular Reaction Demonstration Project under the Impact Assessment Act. ACOA's responses are in reference to the ACOA funded project. Below is additional context and detail around ACOA's involvement with the Énergie NB Power's Small Modular Reactor Program, Phase II, and it's deliverables:

ACOA Project Description:

"This project will enable NB Power to undertake activities to prepare for deployment and demonstration of small modular reactor (SMR) technologies at an approved nuclear site in New Brunswick. The project will focus on foundational activities such as establishing baseline site designs and addressing environmental and regulatory requirements. Project deliverables will include creating preliminary site designs, negotiating power purchase agreements, coordinating with the Canadian Nuclear Security Commission for vendor design review, establishing a fuel

supply, and overseeing project planning and financing. NB Power will also be pursuing engagements with First Nations and the public as part of this project.”

- *Énergie NB Power’s Small Modular Reactor Program, Phase II, includes the following activities:*
 - *Engineering support and review services:*
 - *To support the development of conceptual and preliminary designs of both the Moltex and ARC technologies,*
 - *Site evaluation and placement studies,*
 - *Utilities Requirement Document (URD) which outlines key safety, design, operational and project attributes the Owner/Operator requires.*
 - *Licensing and Regulatory:*
 - *Reviews and advice to ARC as they complete the Vendor Design Review (VDR) Phase 2,*
 - *Initiation of discussions with the CNSC related to WATSS and used fuel recycling,*
 - *Working with the technology vendors to prepare the License To Prepare Site (LTPS) application,*
 - *Conduct preliminary discussions with CNSC on pre-licensing, LTPS, IA, and License to Construct*
 - *Environment and Engagement:*
 - *Conduct specific environmental and baseline studies,*
 - *Prepare draft Project Descriptions for both technologies,*
 - *Conduct engagement activities with First Nations, the Public, and key stakeholders.*
 - *Operations and Management System Development:*
 - *Develop management system framework, initial policies and procedures for the Owner/Operator,*
 - *Provide advice to both ARC and Moltex relating to management systems,*
 - *Provide operations input into both vendor designs,*
 - *Conduct initial planning activities associated with recruitment, staffing, and training operational staff for the SMR demonstration units.*
 - *Finance and Business:*
 - *Develop Owner/Operator costs and controls,*
 - *Develop overall project plan and schedule(s),*
 - *Provide review and advice to ARC and Moltex on project plans, and cost estimates,*
 - *Prepare a framework for the Power Purchase Agreement(s) (PPA),*
 - *Establish a framework for the Owner/Operator consortium,*
 - *Interface and work with NB Power Transmission and Marketing on the integration of SMRs into the New Brunswick electrical grid,*
 - *Begin initial stages of the Phase 2 of the SMR Supply Chain assessment.*

Additionally, for clarification, I want to underline the fact ACOA has not directly supported the ARC technology research or development, on which this Request for Input is focused. The NB Power project ACOA has supported has undergone both our internal Impact Assessment and Duty to Consult processes, and did not trigger either for further assessment or consultation, respectively. I would be happy to connect and discuss this further at your convenience,

Thank you,

Please let me know if you are ok with the proposed response to IAA.

Danika LeBlanc, CPA, CGA

From: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>

Sent: Wednesday, October 12, 2022 4:00 PM

To: Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>

Subject: FW: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Sharing as fyi. I told Patrick that you advised that Luke would be the contact, so he sent it to him directly. Wanted to make sure you were looped in.

From: Kafa El Zamer

Sent: Wednesday, October 12, 2022 3:58 PM

To: Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>; Josh Jenkins <Josh.Jenkins@ACOA-APECA.GC.CA>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>

Cc: Michelle Caissie <Michelle.Caissie@ACOA-APECA.GC.CA>

Subject: RE: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hi Folks,

I'm sharing the attachments that accompanied this request.

Kafa

From: Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>

Sent: Wednesday, October 12, 2022 3:25 PM

To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>

Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Michelle Caissie <Michelle.Caissie@ACOA-APECA.GC.CA>

Subject: Re: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hi Josh, Luke,

Please see request below. Could your team please respond to this?

Thank you,

Patrick

On Oct 12, 2022, at 2:59 PM, Vigder,Joseph (IAAC/AEIC) <joseph.vigder@iaac-aeic.gc.ca> wrote:

Hi Patrick,

The main reason we are engaging ACOA on this request is because NB Power has indicated that it has received funding from ACOA "for preparation activities associated with the deployment of SMR technologies in New Brunswick" (see p.6 of NB Power's submission included as an attachment to my original request). The issuance of federal funding could have implications on the Minister's ability or decision to designate a project, so we are requesting additional information from ACOA regarding the nature of this funding.

I'd be happy to discuss, so feel free to give me a call or send me a MS Teams meeting invite if you'd like to chat about it. I am fairly free tomorrow or Friday morning.

Thanks,

Joseph

From: Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>

Sent: October 12, 2022 10:51 AM

To: Vigder,Joseph (IAAC/AEIC) <joseph.vigder@iaac-aeic.gc.ca>

Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Michelle Caissie <Michelle.Caissie@ACOA-APECA.GC.CA>

Subject: FW: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hi Joseph,

Your request landed in my in-box and I am wondering if you had time to discuss? We need more information to better understand what you are expecting.

Thank you,

Patrick

Patrick Lacroix

Director General

Policy, Planning, Advocacy, Coordination and Communication

New Brunswick Regional Office

Atlantic Canada Opportunities Agency (ACOA) / Government of Canada

Patrick.Lacroix@acoa-apeca.gc.ca Mobile: 506-478-1237 / TTY: 7-1-1

Patrick Lacroix

Directeur général

Politiques, planification, défense des intérêts, coordination et communication

Bureau régional du Nouveau-Brunswick

Agence de promotion économique du Canada atlantique (APECA) / Gouvernement du Canada

Patrick.Lacroix@acoa-apeca.gc.ca Mobile: 506-478-1237 / ATS: 7-1-1

From: Marianne Etter <Marianne.Etter@ACOA-APECA.GC.CA>

Sent: October 7, 2022 11:35 AM

To: Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>

Cc: Jennifer Mullane <Jennifer.Mullane@ACOA-APECA.GC.CA>

Subject: FW: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hi Patrick,

This request came to us and I see it also went to our general inquiry email at ACOA (which means it may have already found its way to you). If ACOA wants to respond it should come from the NB office. You may want to take a look and get back to IAAC.

Thanks.

Marianne

From: Jennifer Mullane <Jennifer.Mullane@ACOA-APECA.GC.CA>

Sent: Friday, October 07, 2022 10:35 AM

To: Marianne Etter <Marianne.Etter@ACOA-APECA.GC.CA>

Subject: For NB: FW: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hi Marianne,

Here is the IAAC request around small modular reactors that we talked about yesterday.

Jen

Jennifer Mullane

ACOA Policy | Halifax

902-440-0086

Jennifer.Mullane@acoa-apeca.gc.ca

From: Reactor-Reacteur (IAAC/AEIC) <Reactor-Reacteur@iaac-aeic.gc.ca>

Sent: Wednesday, October 05, 2022 11:18 AM

To: FCR_Tracker@ec.gc.ca; TCFCRMAR@tc.gc.ca; sean.belyea@cnsccsn.gc.ca;

Joe.Behar@sac-isc.gc.ca; James Neary <James.Neary@rcaanc-cirnac.gc.ca>;

CarolLee.Giffin@forces.gc.ca; INFCERA-EEA@infc.gc.ca; Information (ACOA/APECA)

<information@acoa-apeca.gc.ca>; patrick.hum@ised-isde.gc.ca; contact@cib-bic.ca;

Referrals-Maritimes.XMAR@dfo-mpo.gc.ca; Smith, Walker <Walker.smith@nrcan-rncan.gc.ca>

Cc: michael.hingston@ec.gc.ca; shelley.ball@nrcan-rncan.gc.ca; christopher.burbidge@dfo-mpo.gc.ca; Flanagan, Jason <jason.flanagan@tc.gc.ca>; Kwamena, Nana-Owusua <nana-owusua.kwamena@cnsccsn.gc.ca>; Harpell, Heather <Heather.harpell@cnsccsn.gc.ca>; candida.cianci@canada.ca; melissa.guinn@inf.gc.ca; Jennifer Mullane <Jennifer.Mullane@ACOA-APECA.GC.CA>; jparmar@cib-bic.ca; Belland, Brenna (IAAC/AEIC) <Brenna.Belland@iaac-aeic.gc.ca>; Savard, Micheline (IAAC/AEIC) <micheline.savard@iaac-aeic.gc.ca>

Subject: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hello All,

Please find attached a letter and related information from the Impact Assessment Agency of Canada regarding a request sent to the Minister of Environment and Climate Change to designate the Small Modular Reactor Demonstration Project at Point Lepreau, NB. The Agency is requesting your input by **October 25, 2022** in order to help inform the Minister on whether the project should be designated.

If you have any questions, do not hesitate to get in touch.

Regards,
Joe Vigder
(he/him | il)

Project Manager, Atlantic Region
Impact Assessment Agency of Canada / Government of Canada
joseph.vigder@iaac-aeic.gc.ca / Tel : 902-229-9637

Gestionnaire de projets, région atlantique
Agence d'évaluation d'impact du Canada / Gouvernement du Canada
joseph.vigder@iaac-aeic.gc.ca / Tél : 902-229-9637



Government
of Canada

Gouvernement
du Canada

Canada



s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

Page 965

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20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

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20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

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*****COMMERCIALY SENSITIVE*****

Moltex Energy | 75 Prince William Street | Unit 302 | Saint John | New Brunswick | Canada | E2L 2B2 | +1 506 214 8551 | info@moltexenergy.com | www.moltexenergy.com

s.20(1)(b)

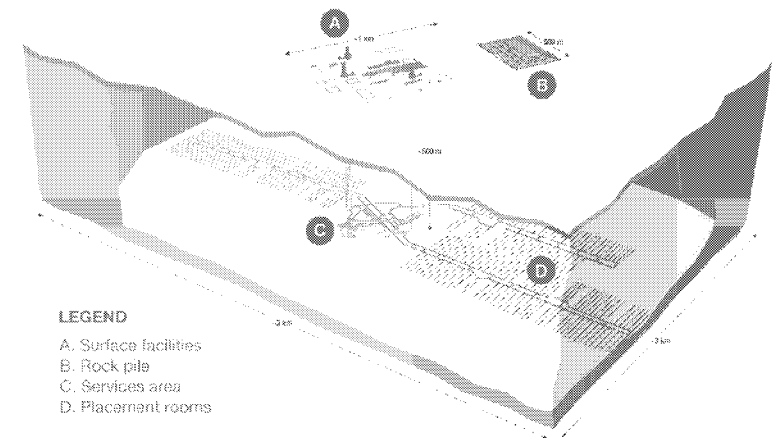
s.20(1)(c)

Structure

- Canadian fleet
- WATSS plants
- SSR-W plants
- Project funding
- FOAK development and licensing – funding requirements
- Overall cashflows
- Valuation

DGR

- Budget CAD\$22.3b
 - 20% fixed cost of construction
 - 80% variable cost related to volume of waste
 - Could rise again with latest review
- 110,000 tonnes of heavy metal (spent fuel)
 - 5.5m bundles
 - 418 tonnes plutonium
- DGR costs per tHM
 - \$200k total
 - \$167k variable



Reactor fleet

Location	Waste owner	Bundles 2019	Bundles end of life
Bruce A	OPG	551,326	1,234,000
Bruce B	OPG	728,734	1,686,000
Darlington	OPG	566,828	1,274,000
Douglas Point	AECL	22,256	22,256
Gentilly-1	AECL	3,213	3,213
Gentilly-2	HQ	129,925	129,925
Pickering A & B	OPG	773,335	906,000
Point Lepreau	NBPN	152,118	260,000
Whiteshell	AECL	2,301	2,301
Chalk River	AECL	4,886	4,886
TOTAL		2,934,922	5,522,581



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WATSS plants



WATSS plants



SSR-W reactors



SSR-W reactors



Movable assumptions

GridReserve: complementing intermittent renewables

RO2

s.19(1)
s.20(1)(b)

Project timeline



Funding requirements



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s.20(1)(b)
s.20(1)(c)
s.20(1)(d)

Government funding possibilities



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s.20(1)(c)
s.20(1)(d)

Valuation



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OPG Proprietary

Scope of Work

Strictly confidential. Disclosure of this document could reveal highly confidential information relating to Government of Ontario policy or deliberations, advice to Government by Ontario Power Generation Inc., relations with other governments and their agencies, privileged information or third party information.

s.19(1)

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

Schedule

Progress/Final Reports

Progress Review and Annual Meeting

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s.19(1)

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

Payments

Terms

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s.19(1)

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

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s.19(1)

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

Dominique Minière
Chief Strategy Officer
Ontario Power Generation

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s.19(1)
s.20(1)(b)
s.20(1)(c)
s.20(1)(d)

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19(1), 20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)
of the Access to Information Act
de la Loi sur l'accès à l'information

**Pages 1086 to / à 1093
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20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

of the Access to Information Act
de la Loi sur l'accès à l'information**

Page 1094

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19(1), 20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

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20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

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Page 1106

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19(1), 20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

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**Regional Economic Growth through Innovation -
Business Scale-Up and Productivity**

Project Number: 217315

This Contribution Agreement

BETWEEN: **ATLANTIC CANADA OPPORTUNITIES AGENCY,**
having an office in New Brunswick

(hereinafter referred to as "the **Agency**")

AND:

Moltex Energy Canada Inc., an organization duly incorporated under the laws of New Brunswick, having its office located at:
75 Prince William Street
Saint John, New Brunswick
E2L 2B2

(hereinafter referred to as "the **Recipient**")

WHEREAS the Regional Economic Growth through Innovation - Business Scale-Up and Productivity, is a national innovation program that was established to provide support to business productivity and scale-up,

(hereinafter referred to as "the **Program**")

WHEREAS the Recipient submitted an application for assistance pursuant to the Program.

WHEREAS this Agreement sets out the terms and conditions under which the Agency agrees to provide a contribution to the Recipient,

IN CONSIDERATION of their respective obligations set out below, the parties hereto agree as follows:

1.0 Documents Forming Part of this Agreement

1.1 The following documents form an integral part of this Agreement:

- These Articles of Agreement
- Schedule 1 – General Conditions
- Schedule 2 – Statement of Work
- Schedule 3 – Claims and Costs Principles
- Schedule 4 – Reporting Requirements
- Schedule 5 – Project Fact Sheet for News Release

ARTICLES OF AGREEMENT

- 1.2 In the event of conflict or inconsistency, the order of precedence among the documents forming part of this Agreement shall be:

These Articles of Agreement
Schedule 1 – General Conditions
Schedule 2 – Statement of Work
Other Schedules

2.0 The Project

- 2.1 The Recipient shall carry out the Project as described in Schedule 2 – Statement of Work, shall make claims in accordance with Schedule 3 – Claims and Costs Principles, shall issue the reports required under Schedule 4 – Reporting Requirements and shall fulfill its other obligations hereunder in a diligent and professional manner using qualified personnel.
- 2.2 The Recipient shall commence the Project on or before February 1, 2021 (hereinafter referred to as “the **Project Commencement Date**”).
- 2.3 The Recipient shall complete the Project on or before December 31, 2024 (hereinafter referred to as “the **Project Completion Date**”).

3.0 The Contribution

- 3.1 Subject to all other provisions of this Agreement, the Agency shall make a Contribution (“the **Contribution**”) to the Recipient, with respect to the Project, calculated as the lesser of:
- (a) the amount equal to the assistance rate (%) of the Eligible Costs as stated on Schedule 2 – Statement of Work; and
 - (b) \$3,000,000.00.

4.0 Fiscal Year

- 4.1 The Recipient agrees that its fiscal year ends on March 31, and there must be no change to that fiscal year without the prior consent of the Agency.

5.0 Payments

- 5.1 The Agency will pay the Contribution to the Recipient in respect of Eligible Costs that are Costs Incurred, as defined in Schedule 1, on the basis of itemized claims submitted in accordance with Schedule 3 – Claims and Costs Principles.

ARTICLES OF AGREEMENT

5.2

5.3 Prior to the initial payment, the Recipient must provide the Agency with the following information, to the satisfaction of the Agency:

(a) the completed and signed *Pre-authorized Debit/Direct Deposit Authorization* (PAD) form as provided by the Agency.

5.4 The Recipient shall, no later than sixty (60) calendar days following the Project Completion Date, submit to the Agency a final claim in accordance with Schedule 3 – Claims and Costs Principles. The Recipient must be able to demonstrate, at the request of the Agency and to the Agency's satisfaction, that all Costs Incurred that have been submitted for payment to the Agency have effectively been paid by the Recipient by monetary payment.

5.5 At the discretion of the Agency, an advance payment may be made to the Recipient. To request an advance payment, the Recipient must submit a completed and signed copy of the Request for an Advance Payment form provided by the Agency, and include a monthly cash flow forecast of requirements with respect to the portion of the Eligible Costs funded by the Agency that are to be incurred during the advance period. Such documentation must demonstrate that the advance payment is essential to the successful completion of the Project.

The Recipient must, within forty-five (45) calendar days of the end of the period for which the advance was made, demonstrate to the satisfaction of the Agency that the advance payment was applied to the payment of Costs Incurred.

5.6 At the discretion of the Agency or at the request of the Recipient, the Agency may make payments jointly to the Recipient and a third party for Costs Incurred.

5.7 Notwithstanding the foregoing, ten percent (10%) of the Contribution may, at the sole discretion of the Agency, be reserved for the final payment, to be made based on the final claim by the Recipient.

6.0 Repayment

6.1 The Recipient shall repay the Contribution to the Agency in monthly instalments calculated as a percentage of Annual Revenue of the Recipient.

6.2 These amounts are calculated to repay the outstanding balance of the Contribution; however, the last instalment may be adjusted to include all sums owing.

ARTICLES OF AGREEMENT

6.3 The annual amount due to the Agency shall be calculated as three percent (3%) of Annual Revenue of the Recipient. The annual amount will then be divided, as required, to determine the monthly instalments. A maximum repayment of \$500,000 per year will be considered.

6.4

7.0 Special Condition(s)

7.1 Notwithstanding any other terms or conditions of this Agreement, if the Recipient does not submit a claim for payment or does not provide documentation with the claim that is satisfactory to the Agency within six (6) months from the Effective Date of this Agreement (“the **Lapsing Date**”), the Agreement will terminate. The Agency may extend the Lapsing Date at its complete discretion and will advise the Recipient of its decision.

Notwithstanding any other terms or conditions of this Agreement, the Agency may cancel any balance of the Contribution that has not been claimed within six (6) months from the Project Completion Date (“the **End Date**”). The Agency may extend the End Date at its complete discretion and will advise the Recipient of its decision.

8.0 Official Languages

8.1 The Recipient agrees:

- (a) that all public acknowledgments of the Agency’s support for the Project will be expressed in both official languages;
- (b) that basic project information, such as project description, will be developed and made available to the public in both official languages;
- (c) to invite members of the official-language minority community to participate in any public event relating to the Project, where appropriate; and
- (d) that main signage components related to the Project will be in both official languages.

9.0 Project Financing

9.1 The Recipient shall provide the Agency with confirmation of the Project financing commitments specified in Schedule 2 – Statement of Work. These commitment letters must be satisfactory to the Agency at its sole discretion.

ARTICLES OF AGREEMENT

9.2 The Recipient hereby acknowledges that no federal, provincial or municipal government assistance, other than the government assistance specifically described in Schedule 2 – Statement of Work, has been requested or received by the Recipient for the Project. The Recipient must also, until the end of the Control Period, promptly inform the Agency of any changes to such assistance, in accordance with Schedule 1 – General Conditions, Other Government Assistance.

10.0 Environmental Requirements

10.1 The Recipient represents that the Project is not a “designated project” as defined in the *Impact Assessment Act*, S.C. 2019, c. 28, s. 1 (IAA) and that an impact assessment (IA) or a determination under section 82 of IAA, are not required for the Project.

11.0 Commercialization

11.1 Work in Atlantic Canada

- (a) Unless otherwise agreed to in writing by the Agency, the Recipient will ensure that the Resulting Products are exploited through their production in Atlantic Canada until the end of the Control Period.
- (b) If the Project provides for the Foreground Intellectual Property to be owned in whole or in part by the Recipient’s employees, the Key Project Collaborator(s) and/or the employees of the Key Project Collaborator(s), the Recipient must ensure that its agreements with these parties contain provisions that ensure that the obligations in paragraph (a) above are fulfilled. The Recipient must have all such agreements in place and provide a copy to the Agency, prior to the initial payment.

11.2 Licensing Agreement

In the event the Recipient intends to enter into a licensing agreement to fulfill its obligations set out in Commercialization above, the Recipient shall obtain the Agency’s prior confirmation that the licensing agreement is satisfactory to the Agency for the purposes of the Project and, if so, shall provide the Agency with a copy of the duly executed licensing agreement and evidence to satisfy the Agency that the transaction and any payments thereunder have been or will be completed at fair market value. Without limiting the foregoing, the Recipient must ensure that any such license will contain provisions to enable the Recipient to obtain audit certificates from the licensee’s accounts and records in respect to the amounts used by the Recipient to calculate payments due to the Agency under this Agreement.

11.3 Intellectual Property

In the event the Project involves intellectual property, the Recipient shall provide the Agency with information regarding its intellectual property strategy related to the Project as may be requested by the Agency from time to time.

ARTICLES OF AGREEMENT

12.0 Communications

- 12.1 The Recipient must consult with the Agency regarding communication activities relating to the Project in accordance with Schedule 1 – General Conditions, Communications.

13.0 Notice

- 13.1 Any notice or correspondence to the Agency, including the attached duplicate copy of this Agreement signed by the Recipient, must be addressed to:

Atlantic Canada Opportunities Agency
570 Queen Street
P.O. Box 578
Fredericton, New Brunswick
E3B 5A6

Attention: Ted Parisé

or to such address as is designated by the Agency in writing.

- 13.2 Any notice or correspondence to the Recipient must be addressed to:

Moltex Energy Canada Inc.
75 Prince William Street
Saint John, New Brunswick
E2L 2B2

Attention: Rory O'Sullivan

14.0 Entire Agreement

- 14.1 This Agreement, if accepted, will constitute the entire Agreement between the Parties with respect to its subject matter. No amendments will be made to the Agreement unless agreed upon in writing by both parties.

15.0 Joint and Several Obligations

- 15.1 Where this Agreement has been executed by more than one Recipient, the liability of each Recipient is joint and several, and every reference in this Agreement to the "Recipient" or "it" or "its" in the context of referring to the Recipient shall be construed as meaning each person named as a Recipient, as well as all of them. Without limiting the generality of the foregoing, all covenants, representations and warranties of the Recipient in this Agreement shall be construed as having been made by each Recipient and by all of them considered as a single person.

ARTICLES OF AGREEMENT

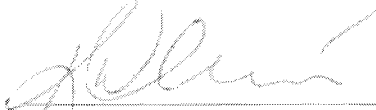
16.0 Effective Date

- 16.1 This Agreement will come into effect on the date of last signature by the parties (the “**Effective Date**”). In the event a party has failed to date a signature, the Effective Date will be the date the Agency receives the Agreement signed by all parties.

ARTICLES OF AGREEMENT

IN WITNESS WHEREOF the parties hereto have executed this Agreement through duly authorized representatives.

ATLANTIC CANADA OPPORTUNITIES AGENCY



Kent Estabrooks
Vice President

Date 7 Jan 2021

Project No.: 217315

This Agreement may be executed in separate counterparts, each of which will be deemed to be an original, and such separate counterparts will together constitute one and the same instrument. The executed Agreement may be communicated to the Agency by facsimile transmission, by ACOA Direct, or as otherwise agreed to by the Agency and such will be deemed to be an original for all purposes.

Moltex Energy Canada Inc.	
Date: <u>Feb 12</u> , 20 <u>21</u> <i>(Insert date of signature)</i>	Signature _____
	Name: <u>Rory O'Sullivan</u> <i>(please print)</i>
	Title/Position: <u>President & CEO</u> <i>(please print)</i>
Date: _____, 20____ <i>(Insert date of signature)</i>	Signature <u>N/A</u>
	Name: _____ <i>(please print)</i>
	Title/Position: _____ <i>(please print)</i>

GENERAL CONDITIONS

1.0 Definitions

Average Bank Rate means the weighted arithmetic average of the Bank of Canada rates that are established weekly during the month preceding the month in respect of which interest is being calculated.

Background Intellectual Property means the intellectual property rights in the technology developed prior to the beginning of the Project and required for the carrying out of the Project or the exploitation of the Foreground Intellectual Property.

Control Period means the period commencing on the Effective Date and ending on the later of the date when all amounts that have become due under this Agreement have been paid in full or, if no amount has become due to the Agency, fifteen (15) years after the Project Completion Date.

Costs Incurred means the Eligible Costs for goods and/or services that have been received by the Recipient and that the Recipient has paid for by monetary payment or has a legal obligation to pay for by monetary payment in the future. Any Eligible Costs received that have been paid or will be paid for by means other than monetary payment, including, without limitations, in-kind and non-cash transactions, do not qualify as Costs Incurred for which the Agency can pay the Contribution.

Due Date, in relation to an amount owing to the Agency, means: (i) the day on which a scheduled repayment is to be made; or (ii) where no repayment schedule has been arranged, the day that is normally thirty (30) calendar days after the date on which a demand for payment is issued.

Eligible Costs means those costs listed in Schedule 2 – Statement of Work, that comply with the principles of Schedule 3 – Claims and Costs Principles and that are necessary to carry out the Project.

Equity means the ownership interest or value in the assets of a business, net of all debts, claims and any asset account that, in the opinion of the Agency, unreasonably inflates the Recipient's net worth (i.e. assets minus liabilities equals Equity). Negative Equity exists when the value of the total assets is less than the total liabilities. The Recipient's Equity will be calculated as stated in Equity in the Articles of Agreement.

Foreground Intellectual Property means all technical data, including without limitation, all designs, specifications, software, data, drawings, plans, reports, patterns, models, prototypes, demonstration units, practices, inventions, methods, applicable special equipment and related technology, processes or other information or know-how conceived, produced, developed or reduced to practice in carrying out the Project, and all rights therein, including without limitation, patents, copyrights, industrial designs, trade-

GENERAL CONDITIONS

marks, and any registrations or applications for the same and all other rights of intellectual property therein, including any rights which arise from the above items being treated by the Recipient as trade secrets or confidential information.

Gross Annual Sales means the annual revenue, which includes but is not limited to, sales of products, royalties, licensing revenues, advertising revenues, and all other operating revenues, before making any deductions for discounts, returns or allowances. It is calculated simply by adding all sales invoices and other sources of revenues and not including operating expenses, cost of goods sold, payment of taxes or any other charges.

Interest Rate means the rate of interest equal to three per cent (3%) higher than the Average Bank Rate.

Parties mean the Agency and the Recipient.

Project means the undertaking this Agreement is based on and that is further described in Schedule 2 – Statement of Work.

Project Assets means the assets that have been contributed to by the Agency. These are listed in Schedule 2 – Statement of Work.

Resulting Products means the Foreground Intellectual Property and/or all products that, at the sole determination of the Agency, are produced or result from the Project, incorporate results of the Project, use a method, process, equipment or information resulting from the Project and/or, without restricting the generality of the foregoing, that include any Foreground Intellectual Property, inventions, works, writings, designs, devices, and any adaptations, modifications or improvements thereto.

2.0 Representations, Warranties and Undertakings

2.1 Representations, Warranties and Undertakings by the Recipient

The Recipient hereby certifies that the representations, warranties and undertakings set out below are, and will be as of the date of execution of the Contribution Agreement, true and correct in all material respects and undertakes to advise the Agency of any changes that materially affect them.

2.2 Power and Authority of Recipient

Where the Recipient is not an individual, the Recipient represents and warrants that it is duly incorporated, validly existing, in good standing, and has the power and authority to carry on its business, to hold property and to enter into this Agreement. The Recipient undertakes to initiate all the necessary actions required to remain in good standing and to preserve its legal capacity.

GENERAL CONDITIONS

- 2.3 Authorized Signatories
The Recipient represents and warrants that the signatory or signatories to the Agreement, as applicable, has or have been duly authorized to execute and deliver the Agreement on behalf of the Recipient.
- 2.4 Binding Obligations
The Recipient represents and warrants that the execution, delivery and performance of the Agreement have been duly and validly authorized and that upon execution, the Agreement will constitute a legal, valid and binding obligation on the Recipient enforceable in accordance with its terms.
- 2.5 No Pending Suits or Actions
The Recipient warrants that it is under no obligation or prohibition, nor is it subject to or threatened by any actions, suits or proceedings that could or would prevent compliance with this Agreement. The Recipient will advise the Agency forthwith of any such occurrence during the term of the Agreement.
- 2.6 No Gifts or Inducements
The Recipient represents and warrants that it has not, nor has any person on its behalf, offered or promised to any official or employee of Her Majesty the Queen in Right of Canada any bribe, gift or other inducement for or with a view to obtaining the Agreement and it has not, nor has any person on its behalf, employed any person to solicit the Agreement for a commission, contingency fee or any other consideration dependant upon the execution of the Agreement.
- 2.7 Compliance
The Recipient shall apply, in relation to the Project, in all material respects, the requirements of all applicable laws, regulations, orders and decrees of any regulatory bodies having jurisdiction over the Recipient or the Project.
- 2.8 Other Agreements
The Recipient represents and warrants that it has not entered, and undertakes not to enter, into any agreement, without the Agency's written consent that would prevent the full implementation of this Agreement by the Recipient.
- 2.9 Intellectual Property
The Recipient represents and warrants that:
- (a) it has taken appropriate steps to ensure that the Recipient either owns the Background Intellectual Property or holds sufficient rights in the same to permit the Project to be carried out and the Foreground Intellectual Property to be exploited;
 - (b) the title to the Foreground Intellectual Property is to be vested and, unless otherwise agreed to in writing by the Agency, to remain exclusively with the Recipient;

GENERAL CONDITIONS

- (c) it shall take appropriate steps to protect the Foreground Intellectual Property it owns and where applicable, include in its agreements with the Recipient an obligation for them to do the same, and shall, upon request, provide information to the Agency in that regard; and
- (d) it has obtained written permission from every person who will contribute to any Foreground Intellectual Property that may be subject to copyright protection and that will form part of the Project. The Agency may request that the Recipient provide it with a copy of the written waiver(s) of moral rights.

3.0 Other Financing

- 3.1 The Recipient remains solely responsible for providing or obtaining the funding, in addition to the Contribution, required to carry out the Project and fulfill the Recipient's obligations under this Agreement.

4.0 Other Government Assistance

- 4.1 Until the end of the Control Period, the Recipient will promptly inform the Agency, in writing, of any assistance that has been, will be or could be received from federal, provincial or municipal sources other than those identified in Schedule 2 – Statement of Work. The Agency may adjust the Contribution to take into account the amount of any such assistance and may require repayment from the Recipient.

5.0 Values and Ethics

5.1 Members of the Senate and House of Commons

No member of the Senate or House of Commons shall be allowed to derive any financial advantage resulting from the Contribution that would not be permitted under the *Parliament of Canada Act*.

5.2 Members of a Provincial or Territorial Legislature

Members of a provincial or territorial legislature shall be governed by provincial or territorial conflict-of-interest guidelines in effect during the term of this Agreement.

5.3 Conflict of Interest

The Recipient acknowledges that individuals who are subject to the provisions of the *Conflict of Interest Act*, 2006, c. 9, s. 2, the *Conflict of Interest Code for Members of the House of Commons*, the *Conflict of Interest Code for Senators*, the *Values and Ethics Code for the Public Service*, or any other values and ethics codes applicable within provincial or territorial governments or specific organizations cannot derive any direct benefit resulting from this Agreement unless the provision or receipt of such benefit is in compliance with such legislation and codes.

GENERAL CONDITIONS**6.0 Dispute Resolution**

6.1 If a dispute arises concerning the application or interpretation of the Agreement, the Agency and the Recipient shall attempt to resolve the matter through good faith negotiations, and may, if necessary and if the Agency and the Recipient consent in writing, resolve the matter through mediation or arbitration by a mutually acceptable mediator or arbitrator in accordance with the Commercial Arbitration Code set out in the schedule to the *Commercial Arbitration Act* (Canada) and all regulations made pursuant to that Act.

7.0 Restrictions on Distributions

7.1 The Recipient shall not make corporate distributions unless otherwise approved by the Agency. Corporate distributions are defined for the purpose of this Agreement as any payment to any member, shareholder, director, officer or associate company of the Recipient, including, without limitations, bonuses, dividends, salaries or repayment or granting of debt to any of the aforementioned parties, excluding salaries to officers or other employees in the ordinary course of business.

8.0 Lobbying

8.1 The Recipient shall ensure that any person lobbying, as defined in the federal *Lobbying Act*, on its behalf in relation to this Agreement or the Project is registered pursuant to the said Act.

9.0 Relationship with the Agency

9.1 The Agency and the Recipient declare that nothing in this Agreement shall be construed as creating employment, a partnership, joint venture or agency relationship between the Agency and the Recipient. The Recipient is not in any way authorized to make a promise, agreement or contract or to incur any liability on behalf of Her Majesty in Right of Canada, and shall be solely responsible for any and all payments and deductions required by all applicable laws. The Recipient shall indemnify and save harmless the Agency in respect of any claims arising from failure to comply with the foregoing.

10.0 Termination

10.1 The Agreement will terminate at the end of the Control Period.

10.2 In the event that all of the Recipient's obligations and undertakings in regard to the Project have been completed to the satisfaction of the Agency and the Recipient has demonstrated, to the satisfaction of the Agency, that it is no longer acquiring benefits from the Resulting Product(s), the Agency may terminate the Agreement at its discretion.

GENERAL CONDITIONS

Such termination will not affect the Agency's right to collect or recover any amounts that may have become due to the Agency while the Agreement was still in effect, even if these amounts are discovered after termination.

11.0 Force Majeure**11.1 Event of Force Majeure**

The Recipient will not be in default by reason only of any failure in performance of the Project in accordance with Schedule 2 – Statement of Work if such failure arises through no fault or negligence of the Recipient and is caused by an event of force majeure.

11.2 Definition of Force Majeure

Force majeure means any cause that is unavoidable or beyond the reasonable control of the Recipient, including war, riot, insurrection, orders of government or any act of God or other similar circumstance beyond the Recipient's control and that could not have been reasonably circumvented by the Recipient without incurring unreasonable cost.

12.0 Communications

12.1 The Recipient consents to public announcements of the Project, by or on behalf of the Agency. The Recipient shall also acknowledge the Agency's Contribution in any public communications of the Project and shall obtain the approval of the Agency before preparing any announcements, brochures, advertisements, web content or other materials that will display the ACOA corporate identifier and Canada wordmark or otherwise make reference to the Agency.

12.2 The Agency shall inform the Recipient of the date on which the announcement is to be made and the Recipient shall keep this Agreement confidential until such date. Notwithstanding the foregoing, the information referenced in Schedule 5 – Project Fact Sheet for News Release will be considered to be in the public domain on the earlier of: the public announcement of the Project by the Agency or the Recipient, the public disclosure or publication of the said information by the Agency in accordance with applicable legislation, or the expiration of sixty (60) calendar days after the Recipient's acceptance of this Agreement.

12.3 The Recipient must advise the Agency at least thirty (30) calendar days in advance of any special event such as, but not limited to, an official opening, ribbon cutting or other like event that the Recipient organizes in connection with the Project. A ceremony will be held on a date that is mutually acceptable to the Agency and the Recipient. The Recipient consents to having the Minister responsible for the Agency, or a designate, participate in any such ceremony.

GENERAL CONDITIONS

- 12.4 The Recipient agrees to the distribution by the Agency of information about the Project as part of public communication initiatives including, but not limited to, feature stories, news releases, speeches, web content, Agency promotional materials and special publications.
- 12.5 The Agency may, at its sole discretion, withdraw the requirements of the Recipient's acknowledgement of the Agency's Contribution in all public communications of the Project.
- 13.0 Material Changes**
- 13.1 No material changes will be made to the estimated total scope, the nature or any element of the Project or to any element of the Recipient's operation without the prior written consent of the Agency. A material change includes, but is not limited to, changes in the ownership or control of the Recipient or the assets, management, financing, location of the Project or facilities, size of the facilities, timing, expected results, or other government contributions. When consent is requested from the Agency in regard to any material change the Recipient shall provide, in a timely manner, all documentation and information as may be required by the Agency, at its discretion.
- 14.0 Disposal of Assets**
- 14.1 Without limiting the generality of Schedule 1 – General Conditions, Material Changes, the Recipient shall retain possession and control of the Project Assets, the cost of which the Agency contributed to under the Agreement, and shall not, prior to the end of the Control Period, sell, dispose of, cease to use or transfer to commercial use Project Assets without the prior written consent of the Agency.
- 14.2 The issuance of such consent, if any, may be made subject to conditions the Agency deems appropriate in the circumstances, at its discretion. Such conditions may include, without limitation, the condition(s) that the Recipient replace the Project Asset(s) disposed of with comparable asset(s) of equal or lesser value for use in the Project, that the Recipient pay the Agency forthwith all funds recovered by the Recipient pursuant to the sale or disposal of the Project Asset(s), and/or that the Recipient pay the greater of the percentage of assistance rate, as specified in Schedule 2 – Statement of Work, of the:
- (a) proceeds of disposition of the Project Asset(s); or
 - (b) fair market value of the Project Asset(s).

GENERAL CONDITIONS**15.0 Insurance Coverage**

15.1 The Recipient is responsible for deciding the appropriate insurance coverage required to fulfill its obligations herein and to ensure compliance with any applicable laws. Any insurance acquired or maintained by the Recipient is at its own expense and for its own benefit and protection. It does not release the Recipient from or reduce its liability under this Agreement.

16.0 Monitoring, Rights to Audit and Physical Access

16.1 During the term of the Agreement, the Recipient shall provide, to the Agency, the books, accounts and records of the Project and all information necessary to ensure compliance with this Agreement and for audit examination.

16.2 The Recipient shall provide representatives of the Agency reasonable access to its premises to inspect and assess the progress of the Project, or any element thereof, and will supply, promptly on request, such data as the Agency may reasonably require for statistical or Project evaluation purposes.

16.3 The Recipient shall, at its own expense, preserve and make available for audit and examination by the Agency or its representatives, for a period of thirty-six (36) months after the end of the Control Period, the books, accounts and records of the Project and all information necessary to verify compliance and ability for compliance with the terms and conditions of this Agreement, including payment of amounts to the Agency, and to assess the success of the Project and the Program. The Agency will have the right to conduct such additional audits and evaluations at its own expense as may be considered necessary, using the staff of the Agency or of other federal departments or agencies, an independent firm or the Recipient's external auditors.

16.4 The Recipient shall also make records and information available to the Auditor General of Canada when requested by the Auditor General for the purpose of an inquiry under subsection 7.1(1) of the *Auditor General Act*.

16.5 The Recipient will assist the Agency with its monitoring of the Agreement and where applicable, will obtain required information from third parties to provide to the Agency and will facilitate the Agency's access to the information and premises of third parties relating to the Agreement.

17.0 Overpayment

17.1 Where, for any reason:

- (a) the Recipient is not entitled to the Contribution; or

GENERAL CONDITIONS

- (b) the Agency determines that the amount of the Contribution disbursed exceeds the amount to which the Recipient is entitled.

the Recipient shall repay the amount of the overpayment to the Agency promptly and no later than thirty (30) calendar days from the date of the notice of such overpayment from the Agency. Any such amount is a debt due to Her Majesty in Right of Canada and may be recovered as such.

18.0 Right to Set-off

18.1 Without limiting the scope of set-off rights available to the Crown at common law, under the *Financial Administration Act* or otherwise, the Agency may:

- (a) set-off against any portion of the Contribution that is payable to the Recipient pursuant to the Agreement, any amount that the Recipient owes to Her Majesty under legislation or any other agreement of any kind; and
- (b) set-off against any amounts that are owed to the Agency by the Recipient, any amount that is payable by Her Majesty under legislation or any other agreements of any kind to the Recipient.

19.0 Interest and Administrative Charges**19.1 Payments**

When any payment is received from the Recipient on account of a prepayment of a repayment instalment, an overpayment, a disposal of asset or an event of default, the Agency shall apply that payment first to reduce any accrued interest and/or administrative charges owing and then, if any part of the payment remains, to reduce the outstanding principal balance in reverse order of maturity.

19.2 Overdue Accounts

The Recipient shall pay, where the account is overdue and in addition to any amount payable, interest on that amount at the Interest Rate, in accordance with the *Interest and Administrative Charges Regulations*, which may be amended from time to time. The interest, calculated daily and compounded monthly, will accrue starting on the Due Date and ending on the day before the date on which the payment is received by the Agency.

19.3 Fee

An administrative fee will be charged on every payment rejected by the Recipient's financial institution for any reason, in accordance with the *Interest and Administrative Charges Regulations*, which may be amended from time to time. The current fee is set at fifteen dollars (\$15).

GENERAL CONDITIONS**20.0 Events of Default**

20.1 The following constitute events of default:

- (a) the Recipient is, in the opinion of the Agency, bankrupt or insolvent, goes into receivership or takes the benefit of any statute from time to time in force relating to bankrupt or insolvent debtors;
- (b) an order is made or resolution passed for the winding up of the Recipient, or the Recipient is dissolved;
- (c) the Recipient, during the term of the Agreement, has defaulted under the terms and conditions of any agreement or arrangement, with any financial institution or creditor with rights to the property or assets of the Recipient;
- (d) in the opinion of the Agency, the Recipient ceases to carry on business;
- (e) the Recipient submits false or misleading information to the Agency;
- (f) the Recipient is no longer eligible under the "eligibility criteria" of the Program;
- (g) the Recipient makes a false or misleading statement concerning assistance by the Agency in a prospectus or other document related to raising funds;
- (h) the Recipient has not met or satisfied a term or condition of this Agreement; or
- (i) the Recipient has not met or satisfied a term or condition under any other contribution agreement, or agreement of any kind, with Her Majesty in right of Canada.

21.0 Remedies on Default

21.1 If an event of default has occurred or, in the opinion of the Agency is likely to occur, the Agency may exercise one or more of the following remedies:

- (a) suspend or terminate any obligation by the Agency to contribute to the Costs Incurred, including any obligation to pay any amount owing prior to the date of such suspension or termination;
- (b) require the Recipient to repay to the Agency all or part of the Contribution paid by the Agency to the Recipient, together with interest at the Interest Rate in accordance with the *Interest and Administrative Charges Regulations*, as may be amended from time to time. The interest, calculated daily and compounded monthly, will accrue

GENERAL CONDITIONS

commencing upon the date of the event of default as specified in the demand for payment issued by the Agency and ending on the day before the date on which the payment is received by the Agency.

21.2 The Recipient acknowledges that, in view of the policy objectives served by the Agency's agreement to make the Contribution, the fact that the Contribution comes from public monies and that the amount of damages sustained by the Crown in the event of default is difficult to ascertain, it is fair and reasonable that the Agency be entitled to exercise any or all of the remedies provided for in, Remedies on Default, of these General Conditions, and to do so in the manner provided for in this section if an event of default occurs.

21.3 The fact that the Agency refrains from exercising a remedy it is entitled to exercise under the Agreement will not constitute a waiver of such right and any partial exercise of a right will not prevent the Agency in any way from later exercising any other right or remedy under the Agreement or other applicable law.

22.0 Annual Appropriations

22.1 Parliamentary Allocation

Any payment by the Agency under this Agreement is subject to there being a sufficient appropriation for the fiscal year, beginning on April 1 and ending on the following March 31, in which the payment is to be made and is subject to cancellation or reduction in the event that departmental funding levels are changed by Parliament.

22.2 Lack of Appropriation

In the event the Agency is prevented from disbursing the full amount of the Contribution due to a lack or reduction of appropriation or departmental funding levels, the Parties agree to review the effects of such a shortfall in the Contribution on the implementation of the Agreement and to adjust, as appropriate, the expected results from the Project specified in Schedule 2 – Statement of Work.

23.0 Notice

23.1 Any notice required to be given with respect to this Agreement must be in writing and will be effectively given if delivered or sent by ordinary or registered mail, ACOA Direct, courier or fax, addressed to the party for whom the notice is intended. Any notice will be deemed to have been received on delivery. Any notice sent by ACOA Direct or fax will be deemed to have been received one (1) working day after being sent. Any notice sent by mail will be deemed to have been received eight (8) calendar days after being sent.

GENERAL CONDITIONS

24.0 Consent of the Agency

24.1 Where a consent or an agreement is requested from the Agency under this Agreement, the Agency has the right to grant or refuse the consent or agreement, and where it decides to grant the consent or agreement, to do so subject to such conditions the Agency deems appropriate, at its discretion.

25.0 No Assignment of Agreement

25.1 The Recipient shall not assign the Agreement or any part thereof without the prior written consent of the Agency.

26.0 Indemnity

26.1 The Recipient shall indemnify and save harmless the Agency from and against all claims, losses, damages, costs and expenses that may be brought against or suffered by the Agency, and that the Agency may incur, sustain or pay arising out of or relating to any injury to or death of a person or loss to property or other loss or damage caused or alleged to be caused by the Recipient or its servants, agents, subcontractors or independent contractors in the course of carrying out the obligations of the present Agreement.

27.0 Cancellation of Agreement

27.1 The Agency may, upon thirty (30) calendar days' notice duly given to the Recipient in accordance with the Notice section of these General Conditions, cancel this Agreement at any time if, in the Agency's opinion, Schedule 2 – Statement of Work has not been executed in a satisfactory manner or if the progress and objectives outlined in the Agreement have not been met.

28.0 *Access to Information Act and Privacy Act*

28.1 This Agreement and all information obtained by the Agency in the course of and pursuant to this Agreement and the Recipient's application, will be subject to and treated in accordance with the *Access to Information Act* and the *Privacy Act*, as applicable, and as amended from time to time.

28.2 Without limiting the generality of the preceding paragraph, the Recipient acknowledges and agrees that the Agency will proactively publish information regarding this Agreement in accordance with the *Access to Information Act*, as amended from time to time.

GENERAL CONDITIONS

29.0 Sharing of Information

29.1 The Recipient expressly authorizes the Agency to share all information obtained by the Agency in relation to this Agreement with other departments and agencies of the Government of Canada for the purpose of implementing, administering and monitoring the Program. This includes, without limitation, the Recipient's financial reports and business information as provided to the Agency under this Agreement and the Recipient's application.

30.0 Aboriginal Consultation

30.1 The Recipient acknowledges that the Agency's obligation to pay the Contribution is conditional upon the Agency satisfying any obligation that it may have to consult with or to accommodate any Aboriginal groups that may be affected by the terms of this Agreement.

31.0 Applicable Law

31.1 This Agreement must be interpreted in accordance with the laws in force in the province in which the office of the Agency is located.

STATEMENT OF WORK

Project Description

Demonstrate the Moltex SMR technology

Project Location

SAINT JOHN, NEW BRUNSWICK

Project Financing

<u>Project Costs</u>		\$	<u>Financing</u>		\$
Salaries/Wages			ACOA Contribution		3,000,000
Payroll Benefits			Cashflow from operations		
Product Demonstrations					
Sub-contracting					
Travel					
Other (operating)					
Consultants					
Total			Total		
<u>Eligible Costs</u>		\$			
Salaries/Wages					
Payroll Benefits					
Product Demonstrations					
Sub-contracting					
Travel					
Other (operating)					
Consultants					
Total					

Details on Project Activities and Costs

Eligible costs include items such as wages/salaries, payroll benefits, consultants, R&D sub-contracting services, travel, commercialization activities, and other direct incremental costs.

STATEMENT OF WORK

Expected Results from the Project

The federal government requires that results from projects receiving federal funding be identified. The Agency will thus follow-up on the following expected results identified from your project.

Expected Project Results

The activities within the scope of this project include the demonstration in low-radioactive environment and the preparation for high radioactive environment demonstration of the Moltex technology.

Means of Verification

Site visits, milestone progress reports, final report.

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

CLAIMS AND COSTS PRINCIPLES**1.0 Claims**

- 1.1 The Agency will pay the Contribution to the Recipient, in respect of Costs Incurred, on the basis of claims that:
- (a) are submitted on claim forms provided by the Agency and include the details of all Costs Incurred being claimed;
 - (b) are completed and certified by an authorized signing officer of the Recipient; and
 - (c) if applicable, include a declaration of any overdue amounts owed to Her Majesty the Queen in Right of Canada pursuant to any obligation other than this Agreement and provide details of any such amounts.
- 1.2 The total amount of the Contribution paid to the Recipient in respect to Costs Incurred but not yet paid to suppliers shall not exceed fifty per cent (50%) of the total authorized Contribution.
- 1.3 Unless specified in the Articles of Agreement – Payments, supporting documents do not need to be included when submitting a claim. However, purchase orders, cancelled cheques, invoices, receipts and all other supporting documentation must be retained and readily available for examination by the Agency during or after any payment in accordance with Schedule 1 – General Conditions, Monitoring, Rights to Audit and Physical Access.
- 1.4 With the submission of the final claim, the Recipient shall submit a confirmation of all confirmed and potential sources of government assistance received in support of the Project and a final payment certificate, on the form provided by the Agency for that purpose, attesting that the Costs Incurred for the entire Project have been paid to the suppliers. The term “paid” herein and in the certification means paid by monetary payment. This certificate must be certified by an authorized signing officer of the Recipient.
- 1.5 Payments to the Recipient may be withheld by the Agency if the Recipient has any outstanding obligations hereunder, including any outstanding reports required in Schedule 4 – Reporting Requirements.

2.0 Project Costs Principles**2.1 Total Eligible Costs of the Project**

The total Eligible Costs of the Project, as listed in Schedule 2 – Statement of Work, will be the sum of the applicable direct costs that are or will reasonably and properly be incurred in the performance of the Project, less any applicable credits.

CLAIMS AND COSTS PRINCIPLES

2.2 Incremental Costs

Eligible Costs, as identified in Schedule 2 – Statement of Work, include only incremental costs deemed essential for the implementation of the Project. Incremental costs are those that are new or additional, or costs that would not have otherwise been incurred if not for the implementation of the Project.

2.3 Reasonable Costs

Eligible Costs, as identified in Schedule 2 – Statement of Work, include only those costs that are reasonable. A cost is reasonable if, in nature and amount, it does not exceed what would be incurred by an ordinary, prudent person in the conduct of competitive business. In determining the reasonableness of a particular cost, consideration must be given to:

- (a) whether the cost is at fair market value;
- (b) the restraints and requirements of factors such as generally accepted sound business practices, arm's-length bargaining, federal, provincial and local laws and regulations, and agreement terms;
- (c) the action that prudent business persons would take in the circumstances, considering their responsibilities to the owners of the business, their employees, customers, stakeholders, the Government and the public at large;
- (d) significant deviations from the established practices of the Recipient that may unjustifiably increase Eligible Costs; and
- (e) the specifications, delivery schedule and quality requirements of the particular Project that may affect costs.

2.4 Travel Costs

Eligible travel costs include transportation, accommodations and meals (but not incidentals) that are directly attributable to the Project and included in Schedule 2 – Statement of Work. In regards to kilometers and meals, the Agency will reimburse the Recipient using the rates set out in the National Joint Council Directive (the Directive) (www.njc-enm.gc.ca), as may be amended from time to time. More specifically, meal costs incurred by the Recipient during eligible travel will be reimbursed by way of meal allowances at the same per diem rates as set forth in Appendix C or D of the Directive, as applicable, and kilometers travelled for eligible travel will be reimbursed based on the same kilometric rates set forth in Appendix B of the Directive. Notwithstanding the foregoing, no travel costs, including meal allowances or kilometers, will be paid or allocated for transportation, accommodations or meals that are either non-eligible or that were at no costs to the Recipient or included as part of other costs incurred (i.e. conference, inclusive-type accommodations, group transportation, etc.).

CLAIMS AND COSTS PRINCIPLES**2.5 General Administrative Costs**

General administrative costs include expenditures for office supplies, courier charges, utilities/telecommunications (e.g. telephone, fax, internet, electricity), and other office expenses identified as being directly attributable to the Project and included in Schedule 2 – Statement of Work. Incremental costs are only acceptable when they can be substantiated by the Recipient.

2.6 Salary and Wages Costs

Salary costs must be incremental and essential for the Project. Such wages or salaries must be for employees on the Recipient's payroll and included in Schedule 2 – Statement of Work. The acceptable payroll rate shall be the regular pay rate for the period, excluding premiums paid for overtime or shift work.

Salary and wages costs must be claimed on the same basis as they are incurred and paid to employees (i.e. weekly, bi-weekly, monthly), as supported by payroll records.

In certain cases, a salaried employee may not work exclusively on the Project. In those instances, only the proportion of their salary based on the actual time spent on the Project, as supported by timesheets or other satisfactory form of time recording may be considered as an Eligible Cost of the Project. In order to determine the proportion of the employee salary for the time spent on the Project (a daily or hourly pay rate), the total amount of work days during a salary year can be reduced by the number of vacation days and statutory holidays to which the employee is entitled during that year, as applicable. No other deduction or mechanisms for increasing the proportion of the time spent on the Project will be allowed without the prior consent of the Agency.

When it has been expressly included in Schedule 2 – Statement of Work, salary costs for the performance of an authorized and incremental role of qualified management personnel may be claimed in accordance with this Schedule.

2.7 Payroll Burden

Payroll burden associated with eligible wages and salaries included in Schedule 2 – Statement of Work, which includes items such as group insurance, pension plans and the employer's share of federal deductions, is also eligible for personnel directly associated with the Project. The Recipient can claim a rate of fifteen per cent (15%) of salaries and wages for the payroll burden.

2.8 Non-Eligible Costs

The Agency considers certain categories of costs as non-eligible. These may include, but are not necessarily restricted to, items such as:

- (a) the cost of land acquisition and any cost related to goodwill;
- (b) cost allocation for the use of existing space owned by the Recipient;

CLAIMS AND COSTS PRINCIPLES

- (c) fixed period costs (for example, recurring costs such as property taxes, rentals and a reasonable provision for depreciation);
- (d) entertainment expenses (does not include networking receptions) and first-class airfare;
- (e) insurance, except if the cost is directly related to construction and is capitalized (in accordance with Generally Accepted Accounting Principles or International Financial Reporting Standards) as part of the Project;
- (f) dues and other membership fees;
- (g) severance pay, cash-out of unused vacation, bonuses, overtime premium for salaried employees and commissions;
- (h) refinancing of existing debt, any interest costs, bond discounts, and other financing costs; and
- (i) any costs for the purchase of assets that exceed fair market value of the said assets and any costs that would not necessitate an expenditure of cash by the Recipient, such as amortization and in-kind.

2.9 Credits

Credits are defined as the applicable portion of any income, rebate, allowance or other credit relating to any incurred cost received by or accruing to the Recipient. This includes the input tax credit and the reimbursement of sales taxes paid by the Recipient for goods and services. These credits must be taken into consideration in calculating Eligible Costs.

REPORTING REQUIREMENTS**1.0 General****1.1 Progress Report with Each Claim**

The Recipient shall submit a progress report with each claim for payment, on the form provided by the Agency for that purpose, detailing the progress and results of the Project. Each progress report shall contain the following information in relation to the Project:

- (a) a description of the progress made in the fulfillment of Schedule 2 – Statement of Work during the reporting period;
- (b) an assessment of any significant delay in completing the Project or in attaining any expected result identified in Schedule 2 – Statement of Work, the reasons for such delay, and mitigation measures being taken; and
- (c) the Recipient's revised projection of Project cash flows for the current fiscal year, if any significant change is expected.

1.2 Annual Financial Statements

- (a) The Recipient shall provide the Agency with a copy of its annual review engagement financial statements within one hundred and eighty (180) days after the end of each fiscal year. The Agency reserves the right to request audited year-end financial statements, when deemed necessary by the Agency, and the Recipient shall provide them, upon written request.
- (b) The Recipient shall provide the above financial information annually until the end of the Control Period.

1.3 Internal Financial Statements

The Agency may at any time request the Recipient to provide a copy of its internally prepared financial statements, when deemed necessary by the Agency, and the Recipient shall provide them, upon written request.

1.4 Report on Project Results

After the final payment of the Contribution by the Agency and until the end of the Control Period, the Recipient shall submit, upon request by the Agency, a report detailing the actual results of the Project as compared to the expected results in Schedule 2 – Statement of Work, using the means of verification identified therein. All deviations must be explained. The report must be satisfactory to the Agency, at its sole discretion. The Agency may request independent third-party verification of this report or of the Project results, and the Recipient shall provide such independent verification upon written request and at its own expense.

REPORTING REQUIREMENTS

2.0 Other Reports

- 2.1 Prior to any payment exceeding ninety percent (90%) of the total Contribution, the Recipient shall provide a statement of the total funding from all sources for the Project, including total Canadian government funding received.
- 2.2 The Recipient shall submit to the Agency a completed and signed copy of the Client Information Update form annually with its financial statements.

FACT SHEET FOR NEWS RELEASE

Program: The Agency's Regional Economic Growth through Innovation - Business Scale-Up and Productivity
Project No: 217315

Name and Address of Recipient: Moltex Energy Canada Inc. 75 Prince William Street Saint John, New Brunswick E2L 2B2	Recipient Contact: Name: Rory O'Sullivan Title: Chief Executive Officer Telephone: (506) 721-9551 Fax:
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Project Location: SAINT JOHN, NEW BRUNSWICK	Project Type: REGI - Business Scale-up and Productivity Agreement Type : Contribution
---	--

Project Description:
Demonstrate Small Modular Reactor (SMR) Technology

Total Project Costs:	Eligible Costs:
-----------------------------	------------------------

Authorized Assistance: \$3,000,000.00	Total Government Funding: \$3,000,000.00
---	--

Estimated Project Commencement Date: February 1, 2021

Estimated Project Completion Date: December 31, 2024

**Pages 1146 to / à 1164
are withheld pursuant to sections
sont retenues en vertu des articles
20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)
of the Access to Information Act
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Page 1165

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19(1), 20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

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Page 1176

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STATEMENT OF URANIUM ENRICHMENT

OTTAWA - The Minister of Energy, Mines and Resources, Donald S. Macdonald, issued today the following statement on the government's attitude towards the establishment of uranium enrichment facilities in Canada.

The statement is a result of several enquiries received concerning the government's attitude towards construction of uranium enrichment facilities in Canada by private industry.

The Canadian nuclear power programme uses natural uranium as its basic fuel and an industry manufacturing enriched uranium would rely primarily on export markets. An enrichment project could not be considered an essential national project in Canada requiring government ownership or subsidization as it might in many other countries dependent for a substantial fraction of their future energy needs on enriched uranium fuel. Its value would be measured by the extent of Canadian participation through the machinery and equipment industry, the involvement and development of engineering and technology, the employment of Canadians in both the construction and operating process, the possible advantage to our uranium industry, the taxation revenues to the country and overall benefit.

It would be in essence a secondary industry in which a raw material of either domestic or foreign origin would be further processed, and its economic worth would depend on the fraction of the sales revenue which would accrue as income to Canadians.

Any Canadian uranium enrichment project would be subject to control by the federal government through the Atomic Energy Control Act to ensure that Canada's obligations regarding the peaceful uses of atomic energy were fulfilled, and to ensure safety of workers and the public.

In view of the uncertainties and expense in developing independent enrichment technology, any company entering such a business would probably wish to use the technology which has already been developed in other countries. Such technology is highly classified and under close control of foreign governments.

As a result, a private company could not obtain access to foreign enrichment technology without a government-to-government agreement ensuring the protection of the information. Government officials are investigating the form of intergovernmental agreements which might be necessary. If an enrichment plant proposal is shown to be in the national interest and provided the terms are considered to be reasonable the federal government is prepared to negotiate such agreements.

Factors which the government will consider when assessing a proposal include:

- 1) The optimum use of Canadian energy resources;
- 2) The extent to which Canadian uranium producers would have access to the enrichment plant both for processing services and for the supply of uranium feed material;
- 3) The extent to which Canadians would participate in the financing, engineering, construction, operation, supply of materials and equipment, ownership and management of the facility;
- 4) The timing of the project in relation to other major construction projects in Canada;

- 5) The details of financing; the government would likely monitor the movement of funds in and out of Canada in respect of the project;
- 6) The contractual arrangements with any foreign participants and with the supplier of the enrichment technology;
- 7) Effects on the environment;
- 8) National and regional economic impact, both short and long-term.

It is expected that interested firms will discuss with government officials at appropriate stages any proposals for uranium enrichment which they might be developing.

August 1, 1973

**Pages 1180 to / à 1182
are withheld pursuant to section
sont retenues en vertu de l'article**

21(1)(a)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

From: [Josh Jenkins](#)
To: [Sam Fotia](#); [Luke Bulmer](#);
Subject: FW: ARC Canada
Sent: 6/20/2022 2:13:00 PM

See attached... any comments you think I should share with ARC? Meeting them for coffee later this afternoon at 3:30 my time...

Josh

From:
Sent: Monday, June 20, 2022 1:01 PM
To: Kalie Hatt-Kilburn ; Josh Jenkins
Cc:
Subject: ARC Canada

CAUTION: This email originated from an outside source. Be cautious of any embedded links and/or attachments.

MISE EN GARDE: Ce courriel provient d'une source extérieure. Méfiez-vous des liens ou pièces jointes qu'il pourrait contenir.

Good Afternoon Kalie & Josh,

The team is looking forward to our discussion As a follow-up
to our discussion last week, we wanted to share with you the finalized e-version of the presentation for your files.

We look forward to meeting Josh in-person later today.

Kind Regards,

Corporate Affairs & Human Resources

ARC Clean Energy Canada
Brunswick Square, Suite 900
1 Germain St, Saint John, NB E2L 4V1

P:

C:

www.arcenergy.co | [LinkedIn](#) | [Twitter](#)

Le présent courriel (y compris toute pièce jointe) s'adresse uniquement à son destinataire, qu'il soit une personne ou un organisme, et pourrait comporter des renseignements privilégiés ou confidentiels. Si vous n'êtes pas le destinataire du courriel, il est interdit d'utiliser, de revoir, de retransmettre, de distribuer, de disséminer, de copier ou d'imprimer ce courriel, d'agir en vous y fiant ou de vous en servir de toute autre façon. Si vous avez reçu le présent courriel par erreur, prière de communiquer avec l'expéditeur et d'éliminer l'original du courriel, ainsi que toute copie.

s.19(1)

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)



ARC Funding

Presented by:

© ARC Clean Energy

s.19(1)
s.20(1)(c)
s.20(1)(d)

001184



**Pages 1185 to / à 1187
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20(1)(b), 20(1)(c), 20(1)(d)

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ARC Canada Overview

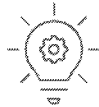
- Clean Energy Technology Company Developing the ARC-100 a 4th Generation Advanced Small Modular Reactor (aSMR)
- Inherently Safe, Reliable & Economical Carbon Free Power for On-Grid & Industrial Applications
- Head Quarters in Saint John, New Brunswick
- Exponential Organizational Growth Supporting Technology Development
- Promoting Business & Economic Development within Canada



**Pages 1189 to / à 1190
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20(1)(b), 20(1)(c), 20(1)(d)

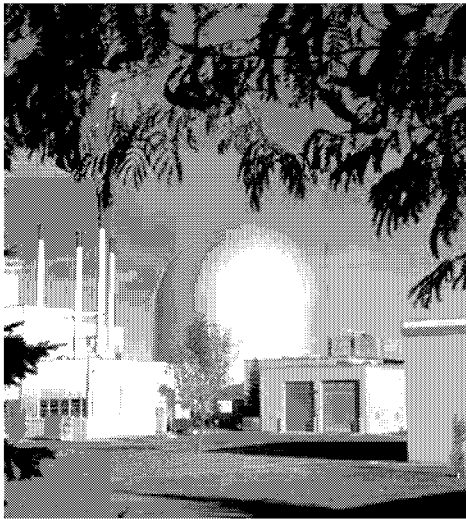
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de la Loi sur l'accès à l'information**



TECHNOLOGY

Development & Innovation

The ARC-100 leverages proven technology that has 30 years of successful operating experience, incorporating new innovations and patents while preserving the original safety foundations



EBR-II (PROTOTYPE)

- 20 MWe
- 1963 to 1994
- Demonstrated inherent safety and fuel recycling



ARC-100

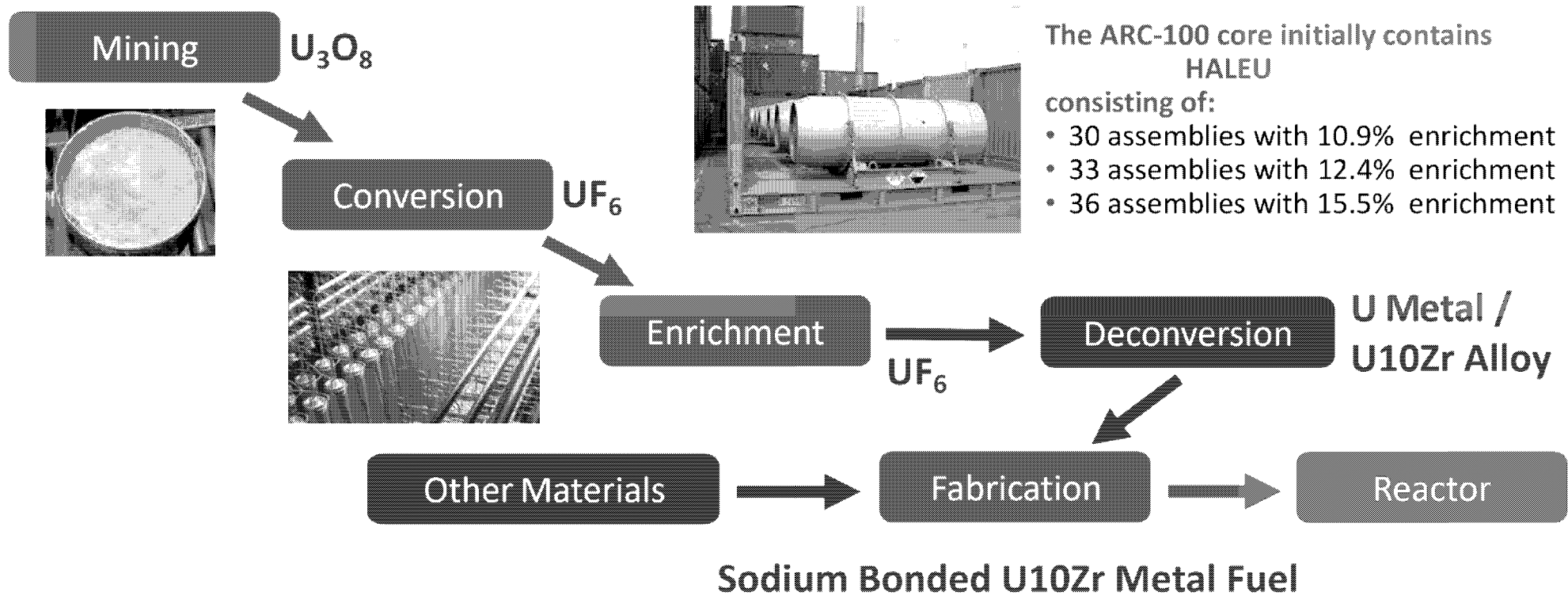
- 100 MWe
- 2029 – 2030 Commissioning
- 60 Year Life
- Simple design and factory built yields low cost energy

**Pages 1192 to / à 1234
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Sourcing HALEU Fuel for the ARC-100 Reactor



Page 1236

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20(1)(b), 20(1)(c), 20(1)(d)

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U.S. Government Support for HALEU

The U.S. DOE is considering creation of a HALEU Bank to support current advanced reactor development programs:

- Down blended U.S. Government HEU would provide an initial supply of HALEU, available within 2 to 3 years
- DOE would issue an RPF (this year) with shared funding to establish an enrichment facility in the U.S. to produce HALEU
- A program of annual government purchases would ensure a market when new enrichment facilities come online
- NEI and the CNA are promoting a North American approach to the HALEU Bank to support aSMR development in Canada
- Regardless of Canadian inclusion in the HALEU Bank, the market created by annual DOE purchases will accelerate projects to establish a commercial supply

Commercial HALEU Sources in France, UK, & US

- ARC currently has an NDA and is in commercial discussions with [REDACTED] who are planning new enrichment facilities in the UK and/or U.S.
- [REDACTED] will self-fund the project and will not be affected by potential delays in a [REDACTED] RFP process
- UF₆ enriched to HALEU at 19.75% could be available in 4 to 5 years
- UF₆ would be down blended to ARC specification, converted to U10Zr slugs at a U.S. facility and shipped to [REDACTED] in the U.S. for fuel fabrication in 2027/2028
- Fuel would be shipped to Point Lepreau in 2028/2029

Commercial HALEU Sources in France, UK, & US

- ARC currently has an NDA and is in commercial discussions with [REDACTED]
- [REDACTED] plans to respond to the [REDACTED] RFP to build a new enrichment facility in the U.S. – business case depends on shared funding
- UF_6 would be enriched to ARC's specification and shipped to a U.S. facility for deconversion to metal and alloying to slugs ready for fuel fabrication (note that [REDACTED] may acquire that capability)
- $U10Zr$ slugs would be shipped to [REDACTED] in the U.S. for fuel assembly fabrication in 2027/2028
- Fuel would be shipped to Point Lepreau in 2028/2029

Transition Fuel Supply to Canada for Future Units

HALEU Supply

- Recent informal discussions with
 indicate they have an interest in
 providing enrichment services using
 technology
- has initiated an accelerated
 commercialization strategy aimed at
 producing HALEU by 2027/2028

Fuel Fabrication

- ARC is transferring fuel fabrication
 technology to Canada under a CNL
 Canadian Nuclear Research Initiative
 (CNRI) Project
- Discussion initiated with CNL on
 commercial fuel fabrication at CRL

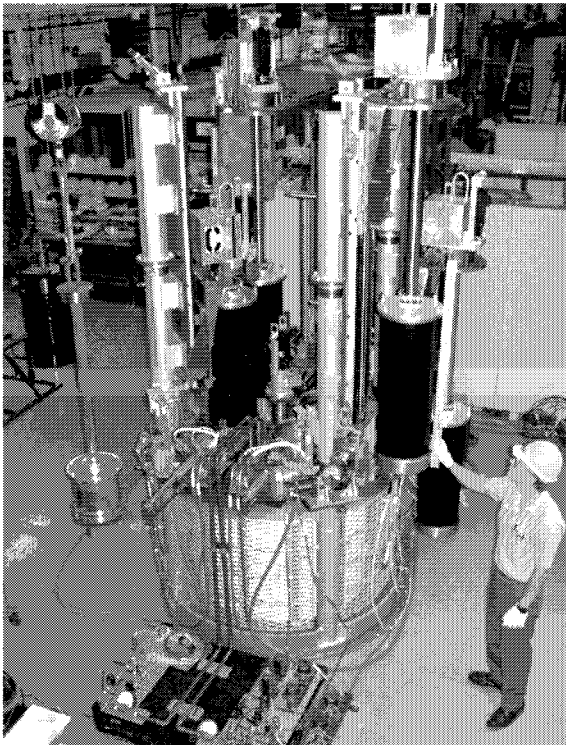
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Closing the Fuel Cycle



In the future, the ARC-100 Fleet can operate on a closed fuel cycle

- Process not required for ~ 50yrs based on 20yr fuel cycle
- Fuel recycling must be approved and economic in Canada
- Argonne National Lab developed Pyroprocessing, and it is being used to reprocess the fuel from EBR-II
- Pyroprocessing will recover TRU for fabrication of new fuel assemblies
- The ARC-100 Fuel fabrication process is suitable for shielded production.
- Metallic U10Zr fuel recycling has been proven at EBR-II
- Fission Products are vitrified for safe permanent disposal with spent fuel hazard life reduced from 300,000 yrs to 300 yrs

**Pages 1243 to / à 1251
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APPLICATION FOR FINANCIAL ASSISTANCE

PROTECTED WHEN COMPLETED

CONFIDENTIALITY: The Applicant understands that the information provided may be accessible under the Access to Information Act. No commercially confidential information which you submit to us will be disclosed unless otherwise authorized by you; required to be released by law; or required by the Minister for the purpose of the *Atlantic Canada Opportunities Agency Act* to be released to an international or internal trade panel for the purposes of the conduct of a dispute in which Canada is a party or a third party intervener. Please consult the federal government's *Access to Information Act* for additional details.

Any information that you wish to be considered as confidential should be annotated accordingly.

APPLICANT AND CONTACT INFORMATION										
1. LEGAL NAME OF APPLICANT: NB Power Corporation					OPERATING NAME OF APPLICANT, IF DIFFERENT: Advanced Reactor Development Program					
2. MAILING ADDRESS: 515 King Street, PO Box 2000, STN A										
COUNTRY: Canada		PROVINCE: New Brunswick		CITY: Fredericton		POSTAL CODE: E3B4X1				
BUSINESS TELEPHONE NUMBER: ()		FAX NUMBER: ()		E-MAIL: kcronkhite@nbpower.com		WEBSITE: www.nbpower.com				
3. LAST NAME OF PERSON WHO WILL BE THE AUTHORIZED CONTACT: Cronkhite					FIRST NAME: Keith					
TITLE: President and Chief Execution Officer (CEO)										
BUSINESS TELEPHONE NUMBER: (506) 458 6631			EXTENSION			MOBILE TELEPHONE NUMBER:		FAX NUMBER: ()		
EMAIL: @nbpower.com					IS THIS PERSON AN AUTHORIZED SIGNING OFFICER OF THE APPLICANT? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
4. PROVIDE DESCRIPTION OF YOUR ORGANIZATION OR BUSINESS AND ITS MANDATE: The Advanced Reactor Development Program mandate is to support the development and deployment of SMRs.										
5. DATE OF INCORPORATION OR REGISTRATION (YYYY-MM-DD) 1920-01-01					APPLICANT BUSINESS NUMBER (9 DIGIT BUSINESS IDENTIFIER PROVIDED BY CANADA REVENUE AGENCY): 1 1 9 2 4 6 9 2 4					
6. TYPE OF LEGAL ENTITY: <input type="checkbox"/> CORPORATION <input type="checkbox"/> SOLE PROPRIETORSHIP <input type="checkbox"/> NOT-FOR-PROFIT ORGANIZATION <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> MUNICIPALITY OR OTHER GOVERNMENT ENTITY <input type="checkbox"/> INDIGENOUS ORGANIZATION OR CORPORATION <input type="checkbox"/> OTHER (SPECIFY):										
7. OFFICIAL LANGUAGE PREFERRED FOR CORRESPONDANCE					<input checked="" type="checkbox"/> ENGLISH <input type="checkbox"/> FRENCH					
8. PROVIDE THE NAME AND CONTACT INFORMATION OF THE BANK/FINANCIAL INSTITUTION ACOA MAY CONTACT TO INQUIRE ABOUT THE APPLICANT. Royal Bank of Canada: Bank: 003, Transit: 00884										
INSTITUTION: Bank		CITY/TOWN: Fredericton, NB		CONTACT PERSON:		TELEPHONE NUMBER: 506 453 1710				
DESCRIBE AVAILABLE CREDIT: N/A										



PROJECT INFORMATION

1. PROJECT NAME:

Advanced Reactor Development Program - Phase 2b

2. PROJECT LOCATION (STREET, UNIT NUMBER, ETC.):

600 Main Street

COUNTRY:	PROVINCE:	CITY:	POSTAL CODE:
Canada	New Brunswick	Saint John	E2K1J4

3. ESTIMATED START DATE OF PROJECT (YYYY/MM/DD): 2022 /06/ 01 ESTIMATED COMPLETION DATE: 2022 /12/ 31

4. ESTIMATED TOTAL PROJECT COSTS \$ 7,658,763

5. AMOUNT REQUESTED FROM THE ATLANTIC CANADA OPPORTUNITIES AGENCY (ACOA): \$ 6,779,982

6. APPLICANT FISCAL YEAR START (YYYY/MM/DD): 2022 /04/ 01 END (YYYY/MM/DD): 2023 /03/ 31

7. HAS THE APPLICANT RECEIVED ASSISTANCE FROM ACOA PREVIOUSLY?

YES	NO
<input checked="" type="checkbox"/>	<input type="checkbox"/>

8. HAS THE APPLICANT MADE ANY FINANCIAL OR LEGAL COMMITMENTS FOR THE PROJECT?

YES	NO
<input type="checkbox"/>	<input checked="" type="checkbox"/>

9. IF YES, PROVIDE DETAILS : NB Power received funding from ACOA (Project 217643) for Phase 2a of this Project.

10. PROVIDE A DESCRIPTION OF THE PROJECT AND THE KEY ACTIVITIES TO BE UNDERTAKEN:

The Government of NB and NB Power are working with two (2) Advanced Small Modular Reactor (SMR) Technology Vendors to develop the technology and design with an overall project goal of deployment of the first units for each technology at the PLNGS site with future deployments in Canada and Internationally. Additional detail on the Project and funding request is provided in Attachment #1 with supporting information provided in Attachment #2 to #9.

11. DESCRIBE THE MEASURABLE ECONOMIC BENEFITS OF THE PROJECT:

This proposal is for Phase 2b of a much larger project, which if successful, would lead to the roll-out of a fleet of advanced SMRs in Canada and internationally. An economic impact assessment for this program was completed in 2020 which indicates that there could be significant benefits to New Brunswick and Canada (see summary in attachment #7.)

OWNERSHIP (Section reserved for companies and partnerships. Other applicants, go directly to section Required Information and Documents.)

1. PROVIDE INFORMATION ABOUT THE PRINCIPAL OWNERS OF THE APPLICANT:

SURNAME	GIVEN NAME	PERCENTAGE OF OWNERSHIP	IS THE PERSON ACTIVE IN THE COMPANY?		IF YES, IN WHAT POSITION/ROLE?
			YES	NO	
Plummer	Brett		<input checked="" type="checkbox"/>	<input type="checkbox"/>	VP Nuclear and Chief Nuclear Officer (CNO)
Cronkhite	Keith		<input checked="" type="checkbox"/>	<input type="checkbox"/>	President and Chief Executive Officer (CEO)
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

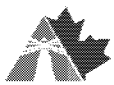
2. PROVIDE THE NAME(S) OF ANY PARENT COMPANY, SUBSIDIARIES AND ANY APPLICATED OR RELATED BUSINESS ENTITIES.

NAME OF BUSINESS	CITY/TOWN	NATURE OF RELATIONSHIP	CONTACT PERSON	TELEPHONE NO.

It is the responsibility of the applicant to complete all required sections as accurately and as completely as possible. Failure to do so may preclude the Atlantic Canada Opportunities Agency (ACOA) from considering the application.

ACOA has adopted service standards with respect to its response time for processing a duly completed application.

PROGRAM (FOR OFFICIAL USE)				
BUSINESS DEVELOPMENT PROGRAM	INNOVATIVE COMMUNITIES FUND	ATLANTIC INNOVATION FUND	REGIONAL ECONOMIC GROWTH THROUGH INNOVATION	OTHER PROGRAMS



REQUIRED INFORMATION AND DOCUMENTS (Please check the ones that are attached to this application.)

COMMERCIAL APPLICANTS	YES	N/A
INCORPORATION DOCUMENTS AND INFORMATION ON OWNERSHIP (NAMES AND PERCENTAGE OF OWNERSHIP)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
FINANCIAL STATEMENTS (CURRENT AND LAST TWO YEARS)	<input checked="" type="checkbox"/>	
RESEARCH AND DEVELOPMENT (R&D) PROJECT PLAN, BUSINESS PLAN AND/OR MARKETING PLAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SUPPLIER QUOTES	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COPIES OF RELEVANT PERMITS AND LICENCES	<input type="checkbox"/>	<input checked="" type="checkbox"/>
OTHER RELEVANT DOCUMENTS (SPECIFY):	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This information may be useful to assist you with your application.

NOT-FOR-PROFIT AND OTHER APPLICANTS	YES	N/A
CONSTITUTING / INCORPORATING DOCUMENTS AND LIST OF DIRECTORS/MEMBERS OF THE BOARD	<input type="checkbox"/>	
FINANCIAL STATEMENTS (CURRENT AND LAST FISCAL YEAR)	<input type="checkbox"/>	
DESCRIPTION AND MANDATE OF THE APPLICANT, INCLUDING THE MANAGEMENT AND QUALIFICATIONS OF KEY PERSONNEL	<input type="checkbox"/>	
HST REBATE INFORMATION (I.E. REBATE RATE)	<input type="checkbox"/>	
<u>ONE OF THE FOLLOWING TWO ITEMS IS REQUIRED:</u> RESEARCH AND DEVELOPMENT (R&D) PROJECT PLAN	<input type="checkbox"/>	
OR DETAILED PROJECT DESCRIPTION, INCLUDING MILESTONES, COSTS, FINANCING, KEY PARTNERSHIPS ESTABLISHED AND EVIDENCE OF SUPPORT FROM THE COMMUNITY	<input type="checkbox"/>	
SUPPLIER QUOTES	<input type="checkbox"/>	<input type="checkbox"/>
COPIES OF RELEVANT PERMITS AND LICENCES	<input type="checkbox"/>	<input type="checkbox"/>
OTHER RELEVANT DOCUMENTS (SPECIFY):	<input type="checkbox"/>	<input type="checkbox"/>

IMPORTANT NOTICE:

ACOA may require further information about the applicant to fulfill requirements. ACOA may also need to obtain consent to collect personal information from officials associated with the applicant. Failure to provide these, if requested, may preclude ACOA from finalizing the assessment of the application.

DISCLOSURES	YES	NO
1) ENVIRONMENT IS THE APPLICANT CURRENTLY OPERATING IN CONFORMITY WITH ENVIRONMENTAL LEGISLATION? WILL THE PROPOSED PROJECT CONFORM TO ENVIRONMENTAL LEGISLATION?	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
2) DUTY TO CONSULT ARE THERE ABORIGINAL GROUPS OR COMMUNITIES IN OR NEAR THE PROJECT AREA? COULD THE PROJECT POTENTIALLY IMPACT NEARBY ABORIGINAL GROUPS OR COMMUNITIES?	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
3) LITIGATION IS THE APPLICANT INVOLVED IN ANY LITIGATION, LEGAL ACTION, SUIT OR CLAIM PENDING, UNDER WAY OR LOOMING, OR ARE THERE ANY PROCEEDINGS BEFORE ANY COURT, TRIBUNAL, GOVERNMENT BOARD OR AGENCY? ARE THERE ANY JUDGMENTS OUTSTANDING AGAINST THE APPLICANT?	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
4) MATERIAL CONTRACTS IS THE APPLICANT IN DEFAULT UNDER ANY SIGNIFICANT CONTRACT OR ANY FINANCING ARRANGEMENT?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5) TAXES IS THE APPLICANT IN ARREARS IN THE PAYMENT OF ANY INCOME, BUSINESS OR PROPERTY TAXES, SALES TAXES, PAYROLL DEDUCTIONS, ETC.?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6) OTHER GOVERNMENT FUNDING HAS THE APPLICANT RECEIVED, OR SOUGHT, ANY OTHER GOVERNMENT FUNDING FOR THIS PROJECT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IF YOU ANSWERED "NO" TO QUESTION 1 OR "YES" TO ANY OTHER QUESTION, PLEASE PROVIDE DETAILS:

2) We continue to work closely with the First Nations groups in NB as well as with the public and civil society.
6) The need for federal funding has been identified through the Canadian SMR industry "Integrated Ask." A letter requesting funding has been sent but at this time a formal application has not been submitted. Industry representatives (including NB Power) continue to meet with Federal Government departments to determine the the appropriate approach for formally submitting the request for the required funding.



CONSENT AND CERTIFICATION

- 1) The information entered here and on all attached documents, as well as any other information collected by or on behalf of the Atlantic Canada Opportunities Agency (ACOA) to process applications for grants and contributions, is collected pursuant to the Atlantic Canada Opportunities Agency Act and the Financial Administration Act.
- 2) There is no obligation to provide the requested information but failure to do so may prevent ACOA from considering the application.
- 3) A project determined to be a designated project under the Impact Assessment Act may be subject to an impact assessment. For the purpose of compliance with this act, project information provided to ACOA, including scientific information, may be shared with the Impact Assessment Agency of Canada and made publicly available through the Canadian Impact Assessment Registry. In addition a representative from Public Services and Procurement Canada may contact you to discuss the project.
- 4) The names of successful applicants, the amount of funding approved and a description of the project are included in public records and disclosed on ACOA's website in accordance with the government's proactive disclosure practices.
- 5) ACOA may contact any person listed in this application to inquire about the applicant.
- 6) I certify that the information provided is, to the best of my knowledge and ability, complete, true and correct, and that this will apply to all information provided in the future in connection with the assessment of the project. Furthermore, I will promptly notify ACOA if any of the information changes.
- 7) I certify that financial assistance from ACOA is a significant factor in the decision to proceed with this project.
- 8) I authorize ACOA to make any inquiries required, including obtaining corporate and business information about the applicant, to assess this application.
- 9) I authorize ACOA to make these inquiries of persons, firms, corporations, federal and provincial government departments, agencies, authorities, institutions and non-profit economic development organizations, and consent to the collection of information.
- 10) I consent to the sharing of the information collected with other federal and provincial departments and agencies for the administration of the grants and contributions programs.
- 11) I consent to the use of the information for policy analysis, research and/or evaluation of ACOA programs.
- 12) The applicant agrees to comply with Official Languages Act, where applicable, depending on the nature of the project and the targeted clientele.
- 13) I have the authority to submit this application on behalf of the applicants and evidence of this authority will be provided on request.

I have read and understood the above Consent and Certification. I voluntarily consent to the collection, use and disclosure of information as described, make the certification as stated and authorize the actions indicated.

(Please keep a signed copy of this form for your records.)

SIGNATURE OF AUTHORIZED OFFICIAL

SIGNED AT (LOCATION): _____

PRINT NAME AND TITLE OF AUTHORIZED OFFICIAL

ON THIS _____ DAY OF _____, 20____

ATLANTIC CANADA OPPORTUNITIES AGENCY (ACOA) REGIONAL OFFICES

ACOA – NEW BRUNSWICK OFFICE

570 Queen Street, P.O. Box 578, Fredericton, New Brunswick E3B 5A6
Toll Free: 1-800-561-4030 ▪ Telephone: 506-452-3184 ▪ Fax: 506-452-3285

ACOA – NEWFOUNDLAND AND LABRADOR OFFICE

The John Cabot Building, 10 Barter's Hill, 11th Floor, P.O. Box 1060, Station "C", St. John's, Newfoundland A1C 5M5
Toll Free: 1-800-668-1010 ▪ Telephone: 709-772-2751 ▪ Fax: 709-772-2712

ACOA – NOVA SCOTIA OFFICE

Suite 700, 1801 Hollis Street, P.O. Box 2284, Station "C", Halifax, Nova Scotia B3J 3C8
Toll Free: 1-800-565-1228 ▪ Telephone: 902-426-6743 ▪ Fax: 902-426-2054

ACOA – PRINCE EDWARD ISLAND OFFICE

100 Sydney Street, 3rd Floor, Royal Bank Building, P.O. Box 40, Charlottetown, Prince Edward Island C1A 7K2
Toll Free: 1-800-871-2596 ▪ Telephone: 902-566-7492 ▪ Fax: 902-566-7098

ACOA – CAPE BRETON OFFICE

Silicon Island, 70 Crescent Street, P.O. Box 1750, Sydney, Nova Scotia B1P 6T7
Telephone: 902-564-3600 ▪ Fax: 902-564-3825

Small Modular Reactor Development Program

Project Objective:

Progress activities for the development and deployment of Advanced Generation IV SMR technologies in New Brunswick.

Background:

The Government of NB and NB Power are working with two (2) Advanced Small Modular Reactor (SMR) Technology Vendors to support research, development, and design activities. ARC Nuclear Canada are developing the ARC-100 reactor and Moltex Energy are developing the SSR-W 300 reactor and the Waste To Stable Salt (WATSS) used fuel reprocessing facility.

The overall Project has been broken down into Phases (*Attachment 2*.) Phase 1 is considered complete, and Phase 2 is in progress. This application is focused on support for a portion of Phase 2 of this much larger project, which if successful, would lead to further fleet roll out in Canada and internationally

The following additional background information is provided as attachments to this application:

- Attachment #2: Diagram of the overall Project Phases
- Attachment #3: Summary of key Phase 2 activities for NB SMR Technology 1
- Attachment #4: Summary of key Phase 2 activities for NB SMR Technology 2
- Attachment #5: Phase 2b Key Deliverables/Milestones
- Attachment #6: Phase 2b (FY22/23) estimated NB Power cost breakdown
- Attachment #7: Summary of potential economic impact of the NB Advanced SMR Program
- Attachment #8: Staffing/Employment Plan
- Attachment #9: Additional background on the NB Advanced SMR Program

Funding Request:

NB Power continues to work with Industry Peers to obtain federal funding through a Canadian SMR Industry “Integrated Ask”, which if provided, will support NB Power and the NB SMR Technology Vendor Phase 2 project activities. ACOA had previously provided support to NB Power for Phase 2a (November 2020 to May 2022 timeframe) under Project 217643. This ACOA application is for Phase 2b (June 2022 – November 2022 timeframe) to allow NB Power Phase 2 project activities to continue in parallel with the activities to secure the more extensive “Integrated Ask”. The total estimated cost for Phase 2b is \$7,658,763. Under a 90%-10% ACOA/NB Power funding agreement and terms similar to Project 217643, this would involve an ACOA contribution of \$6,779,982 and an NB Power contribution of \$878,781 (*see Attachment 6*).

Overview of Phase 2 Activities:

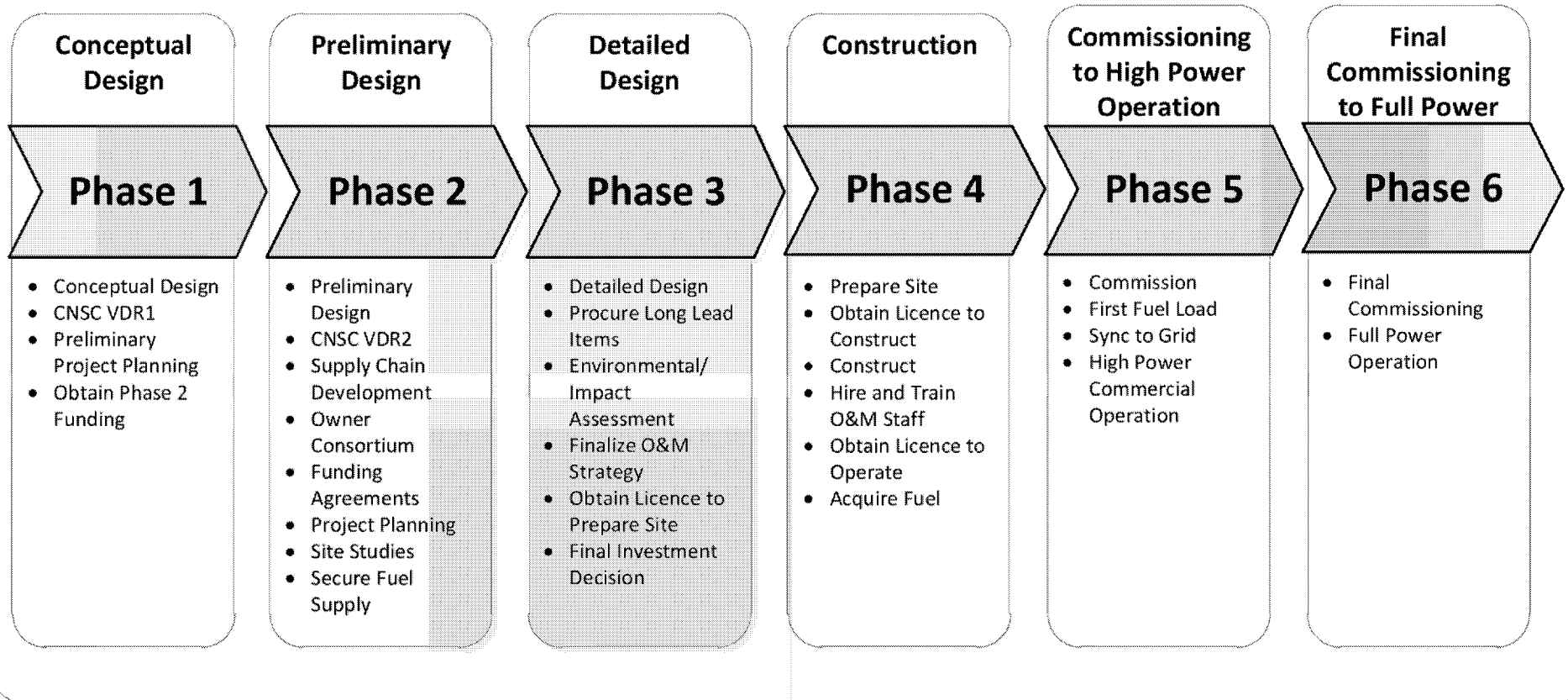
The key activities during Phase 2 are as follows (responsibility for completion in italics):

- Development of the Preliminary Design - *Technology Vendor*
- Oversight and owner review and acceptance of the Preliminary Design - *Owner*
- Completion of the pre-licensing Vendor Design Review phase 2 (VDR-2) - *Technology Vendor*
- Completion of the site evaluation studies and initiating the EIA process - *Owner*
- Submission of the application for the license to prepare site - *Owner*
- Establishing the Owner Consortium which will fund the future phases of the project – *Owner*
- Supply Chain development – *Owner/Province of NB*
- Securing the Fuel Supply – *Technology Vendor*

During Phase 2, NB Power have been assigned the responsibility for progressing the owner/operator activities. These include the owner activities identified above and the following:

- Engagement activities (indigenous, civil society, and government)
- Industry participation and alignment (COG, CSA, CNA, OCNI etc.)
- Project controls
- Business development and marketing
- Management System development and maintenance
- Operational Readiness.

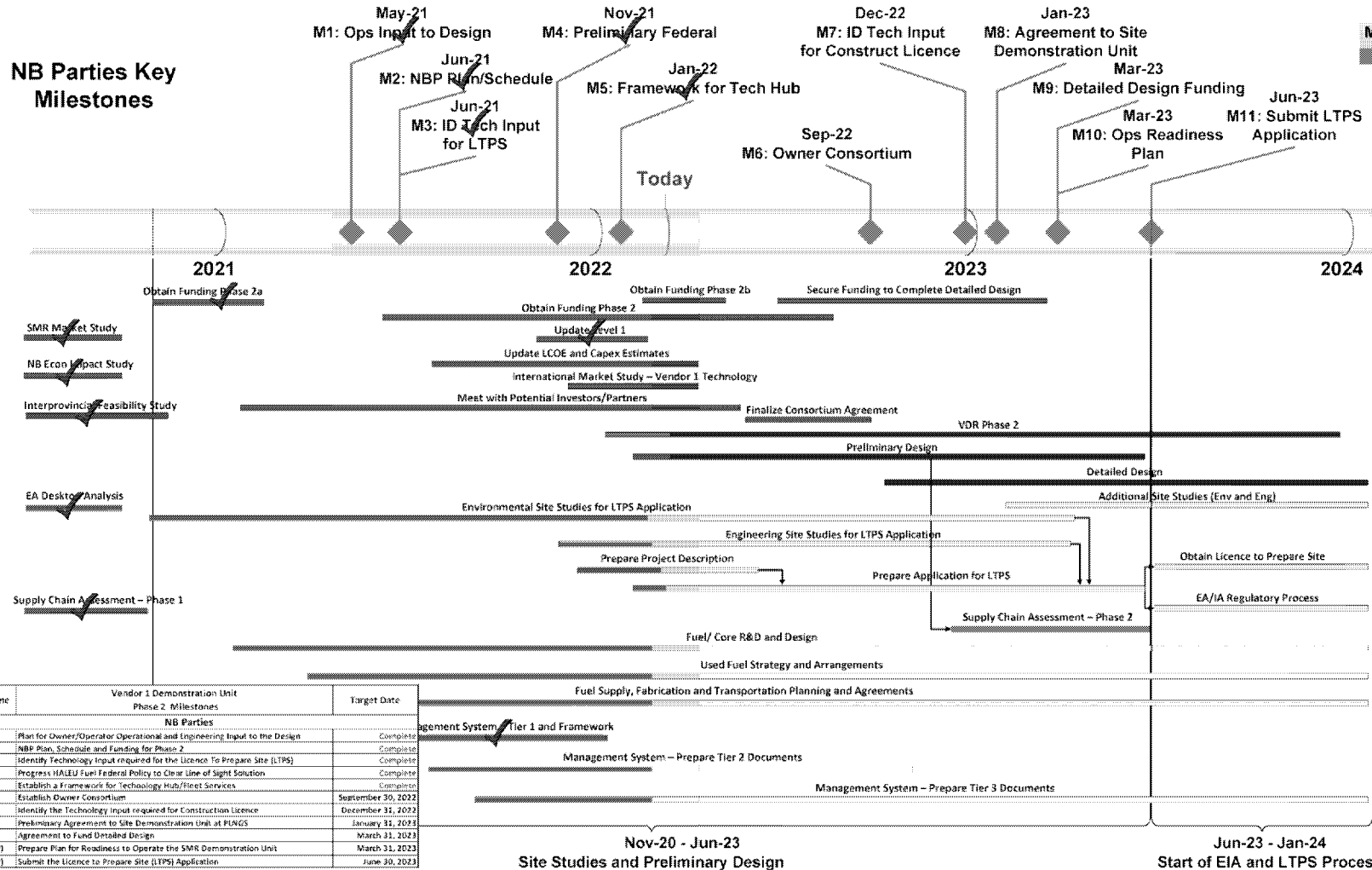
Project Phases for First of a Kind (FOAK) SMR Deployment



Attachment #3: NB SMR High-Level Strategy – Vendor 1 (Phase 2 Timelines)

****Draft**
March 8, 2022**

NB Parties Key Milestones



Milestone	Vendor 1 Demonstration Unit Phase 2 Milestones	Target Date
NB Parties		
M1 (NBP)	Plan for Owner/Operator Operational and Engineering Input to the Design	Complete
M2 (NBP)	NBP Plan, Schedule, and Funding for Phase 2	Complete
M3 (NBP)	Identify Technology Input required for the Licence To Prepare Site (LTPS)	Complete
M4 (NBP)	Progress HIA/EU Fuel Federal Policy to Clear Line of Sight Solution	Complete
M5 (NBP)	Establish a Framework for Technology Hub/Fleet Services	Complete
M6 (NBP)	Establish Owner Consortium	September 30, 2022
M7 (NBP)	Identify the Technology Input required for Construction Licence	December 31, 2022
M8 (NBP)	Preliminary Agreement to Site Demonstration Unit at PLNGS	January 31, 2023
M9 (NBP)	Agreement to Fund Detailed Design	March 31, 2023
M10 (NBP)	Prepare Plan for Readiness to Operate the SMR Demonstration Unit	March 31, 2023
M11 (NBP)	Submit the Licence to Prepare Site (LTPS) Application	June 30, 2023

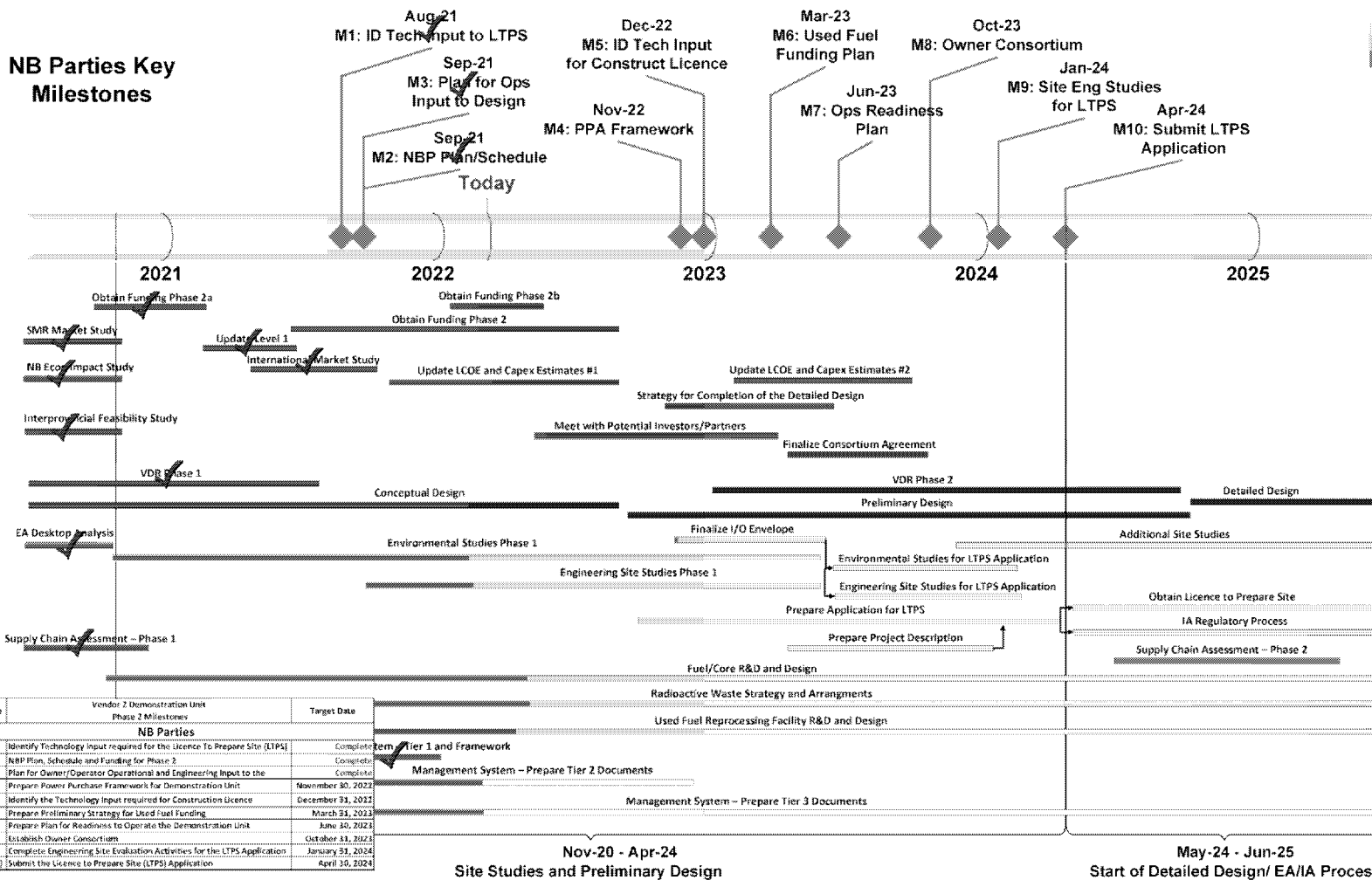
NB Power Confidential

*** NB Power Confidential and Commercially Sensitive ***

Attachment #4: NB SMR High-Level Strategy – Vendor 2 (Phase 2 Timelines)

****Draft**
March 8, 2022**

NB Parties Key Milestones



NB Power Confidential

Nov-20 - Apr-24
Site Studies and Preliminary Design

May-24 - Jun-25
Start of Detailed Design/ EA/IA Process

*** NB Power Confidential and Commercially Sensitive ***

Small Modular Reactor Development Program

Project Scope Areas:

The Phase 2 project activities and budget have been broken down into seven (7) areas:

- Senior Leadership, Industry Engagement and Baseline Costs
- Licensing
- Engineering
- Site Evaluation
- Engagement (Indigenous, civil society and government)
- Business/Project Controls
- Management System/Quality Assurance
- Operational Readiness

An overview of project timelines is provided in *Attachment 3* and *4* and the forecasted cost breakdown for FY22/23 of Phase 2 in *Attachment 6*. The tables that follow provide a summary of some of the key activities and deliverables currently planned for Phase 2b.

Senior Leadership and Industry Engagement

Key activities	Associated Milestones or Key Deliverables
Oversight of the SMR Team.	N/A
Interface and collaborate with industry organizations and Utilities regarding SMR development and deployment including: <ul style="list-style-type: none"> • The Candu Owners Group (COG) • Natural Resources Canada (NRCan) • Canadian Nuclear Association (CNA) • Canadian Nuclear Society (CNS.) 	Progress the strategies and policies that support the deployment of the NB SMR Technologies.
Continue to engage with regulatory, industry, and government agencies on advanced reactor fuel and used fuel reprocessing strategies and associated policies.	On-Going
Continue to engage with regulatory, industry, and government agencies on advanced reactor radioactive waste strategies.	On-Going
Participation at SMR related conferences, workshops and seminars.	N/A
Office costs and other fees.	N/A

Licensing/Regulatory

Key activities	Associated Milestones or Key Deliverables
<p>Provide reviews and advice to the Technology Vendors as they progress through the CNSC Vendor Design Review (VDR) Phase 2 process.</p> <p>The VDR-2 process is a non-mandatory pre-licensing process offered by the CNSC to provide feedback to the vendor in the early stages of design development.</p>	N/A
Prepare Vendor 1 Licence to Prepare Site (LTPS) application	<ul style="list-style-type: none"> • In Progress
Identify inputs needed for the Licence To Construct (LTC) application.	<ul style="list-style-type: none"> • Inputs required for the Vendor 1 LTC complete (NBP M7) • Progress on inputs required for Vendor 2 LTC inputs
Continue discussions with CNSC on pre-licensing, LTPS, EA/IA and licence to construct.	<ul style="list-style-type: none"> • On-Going

Engineering

Key activities	Associated Milestones or Key Deliverables
Produce a Utilities Requirement Document (URD) that provides the SMR vendors the key safety, design, operational, and new plant project attributes that the owner/operator requires.	<ul style="list-style-type: none"> • Preliminary URD complete for Vendor 2 (Vendor 1 URD to be completed in Phase 2a)
Provide input and informal reviews during the development of the conceptual and preliminary designs and R&D.	<ul style="list-style-type: none"> • Vendor 2 conceptual design finalized
Provide formal reviews of the vendor preliminary design.	<ul style="list-style-type: none"> • 50% Vendor 1 preliminary design review complete
Provide reviews and support during the development of the radioactive waste strategies.	N/A
Provide reviews and support during the development of the fuel strategies.	N/A
Interface and work with NB Power Transmission and Marketing on integration of SMRs into the New Brunswick electrical grid.	<ul style="list-style-type: none"> • Grid Study for the SMR Demonstration Units complete.
Conduct specific engineering studies to support deployment of the demonstration unit at PLNGS	<ul style="list-style-type: none"> • Campus Plan Rev. 0 complete

Site Evaluation

Key activities	Associated Milestones or Key Deliverables
Continue scoping and establishing contracts for site evaluation studies (engineering and environmental.)	<ul style="list-style-type: none"> • Scoping complete and contracts in place for studies required for Vendor 1 LTPS application
Continue site evaluation studies in accordance with the schedule	<ul style="list-style-type: none"> • On-going
Prepare preliminary Project Descriptions.	<ul style="list-style-type: none"> • Preliminary Project Description for vendor 1 complete
Support Vendors in identifying inputs to the Site Evaluation Studies	<ul style="list-style-type: none"> • Vendor 1: continue to update/revise information as required • Vendor 2 first draft of inputs provided

Engagement

Key activities	Associated Milestones or Key Deliverables
Conduct engagement activities with First Nations, Public and key stakeholders.	On-going.

Business/Project Controls

Key activities	Associated Milestones or Key Deliverables
Interface with the Federal Government to secure Phase 2 funding through the “Integrated Ask”	Phase 2 Federal funding secured
Prepare a contingency funding strategy in the event that the “Integrated Ask” is not provided.	Phase 2 contingency funding secured (if required)
Continue development and update of the project cost estimates and maintain cost control.	N/A
Continue development and update of the project plans and schedules.	<ul style="list-style-type: none"> • Level 1 schedule in Primavera for Vendor 2 • Updated Level 1 schedule for Vendor 1
Provide review and advice to ARC and Moltex on project plans and cost estimates.	<ul style="list-style-type: none"> • Vendor 2 updated cost estimates
Prepare a framework for a Power Purchase Agreement (PPA.)	<ul style="list-style-type: none"> • Preliminary PPA Framework for both Vendors
Prepare the business and corporate models for the Owner Consortiums	<ul style="list-style-type: none"> • First draft of the models for Vendor 2 • Finalize Rev. 0 of the models for Vendor 1
Identify and interface with potential partners.	<ul style="list-style-type: none"> • Finalize the primary partners for the Vendor 1 demonstration unit. • Identify potential primary partners for Vendor 2 demonstration unit
Establish Owner consortium – Vendor 1.	Finalize the agreement for the Owner Consortium – Vendor 1 (NBP M6.)

Management System Development/ Quality Assurance

Key activities	Associated Milestones or Key Deliverables
Continue preparation of the Owner/Operator Tier 2 and 3 management system processes and procedures in accordance with the schedule.	<ul style="list-style-type: none"> • On-Going.
Provide management system reviews and advice to the Vendors.	<ul style="list-style-type: none"> • On-Going.
Provide vendor quality assurance reviews and advice to the Vendors.	<ul style="list-style-type: none"> • On-Going.
Support the vendors and the provincial government in the development of the supply chain.	Conduct an SMR Supply Chain Event in Saint John

Operational Readiness

Key activities	Associated Milestones or Key Deliverables
Staffing of the Operational Readiness area	<ul style="list-style-type: none"> • Manager hired/seconded
Prepare the Operational Readiness Plans (plans for recruitment, staffing and training of operational staff for the SMR demonstration units.)	<ul style="list-style-type: none"> • Begin preparation of the Vendor 1 Operational Readiness Plan

Attachment #6: Phase 2a and 2b FY22/23 Budget Forecast, Rev. 22-03-15

NB SMR Pre-Project Phase 2 Forecast			FY 2022/23													
Cost Area/Element	FY2020/21	FY2021/22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	FY 2022/23 Total	Phase 2 Sub-Total
Management, Industry Engagement and Baseline Costs (LEPSMR1000)																
40404042 NBP Employee																
Sub-Total: Regular Labour and Benefits	\$151,353	\$371,313	\$20,496	\$21,472	\$21,472	\$20,496	\$22,448	\$21,472	\$20,496	\$21,472	\$21,472	\$21,472	\$19,520	\$22,448	\$254,736	\$777,402
42094220 Professional/Hired Service	\$0	\$0														
Office Cleaning	\$1,700	\$8,050	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$800	\$8,000	\$19,350
Rekeying Office Doors (Halter)		\$635													\$0	\$635
Implement xECHO (XY Vision PO 450/594583)		\$60,000													\$0	\$60,000
Senior Advisor (PO 4500507785)		\$108,640	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$240,000	\$346,549
4350 Lease or Rentals	\$0	\$0														
Hilward Office Bldg B	\$0	\$66,114	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$6,750	\$81,000	\$147,114
Hilward Office Bldg C	\$19,685.00	\$54,200	\$5,476	\$5,476	\$5,476	\$5,476	\$5,476	\$5,476	\$5,476	\$5,476	\$5,476	\$5,476	\$5,476	\$5,476	\$65,712	\$139,567
4380 Office Equipment	\$79	\$7,297	\$2,800	\$2,800	\$2,800	\$2,800	\$2,800	\$2,800	\$2,800	\$2,800	\$2,800	\$2,800	\$2,800	\$2,800	\$33,600	\$40,976
Computer Equipment (50% eligible for ACOA)	\$1,175	\$2,234	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$24,000	\$27,409
4100 Material (includes Office supplies) - Not eligible for ACOA claim	\$323	\$5,941	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$6,000	\$12,263
4300 Travel - In Province	\$0	\$4,235	\$900	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$6,000	\$10,235
4320 Travel - Out of Province	\$0	\$7,000	\$7,000	\$7,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$114,000	\$121,000
4600 Corporate Dues & Membership	\$0	\$0														
ICDG SMR Technical Forum	\$0	\$68,544	\$75,000												\$75,000	\$143,544
ICDG Joint Projects (TBD)	\$0	\$50,000			\$25,000				\$25,000				\$25,000		\$75,000	\$125,000
SMR Secretariat	\$0	\$51,250		\$60,000											\$60,000	\$111,250
SMR Conference	\$0	\$0							\$20,000						\$20,000	\$20,000
GSR4 Conference	\$0	\$0								\$10,000					\$10,000	\$10,000
Conference/Seminar and Industry Meeting Registration	\$329	\$1,033	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$6,000	\$7,362
Corporate Services (e.g. HR, Payroll, Workmans Compensation, Records Management, Document Control, Purchasing/Contracts etc.)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Perip/Tech (not eligible for ACOA claim)	\$0	\$1,812	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,000	\$0	\$0	\$0	\$4,000	\$5,812
4650 Training (for all staff on this Project)	\$0	\$3,511	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$48,000	\$51,511
4600 Meals	\$0	\$1,454	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$4,800	\$6,254
Sub-Total:	174,814	\$674,142	146,222	132,198	100,198	74,222	76,174	100,198	94,222	85,198	79,198	109,198	73,248	76,174	\$1,137,448	\$2,196,204
Licensing (LEPSMR1000)																
4040 NBP Employee																
Sub-Total: Regular Labour and Benefits	\$0	\$185,300	\$16,086	\$16,852	\$16,852	\$16,086	\$17,018	\$28,852	\$28,086	\$28,852	\$28,852	\$28,852	\$27,320	\$29,618	\$283,926	\$469,226
42094220 Professional/Hired Service																
Licensing Team Mentoring and Support (March 430013437)	\$0	\$0	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	\$84,000	\$84,000
ARC License to Prepare Site Support - Consultant (ARC)	\$0	\$0	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$26,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$325,000	\$325,000
ARC License to Construct Support - Consultant (ARC)	\$0	\$0													\$0	\$0
EA Process (Province of NB and CNSC)	\$0	\$0			\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$300,000	\$300,000
Funds accompanying LTPS Application Submission (ARC)	\$0	\$0													\$0	\$0
LTPS Application Review (CNSC)	\$0	\$0													\$0	\$0
Moltex License to Prepare Site Support - Consultant (Moltex)	\$0	\$0											\$25,000	\$25,000	\$25,000	\$75,000
License to Construct Support - Consultant (Moltex)	\$0	\$0													\$0	\$0
EA Process (IAA and CNSC)	\$0	\$0													\$0	\$0
Funds accompanying LTPS Application Submission (Moltex)	\$0	\$0													\$0	\$0
LTPS Application Review - Moltex (CNSC)	\$0	\$0													\$0	\$0
CNSC Pre-Licensing (Service Level Agreement)	\$0	\$7,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$120,000	\$127,000
Sub-Total:	\$0	\$192,300	\$83,086	\$83,852	\$83,852	\$83,086	\$84,818	\$100,852	\$100,086	\$100,852	\$100,852	\$126,852	\$124,320	\$128,618	\$1,187,926	\$1,389,226
Technical/Engineering (LEPSMR1200)																
4040 NBP Employee																
Sub-Total: Regular Labour and Benefits	\$77,598	\$382,231	\$99,446	\$103,753	\$136,753	\$171,446	\$174,080	\$172,753	\$171,446	\$196,753	\$196,753	\$196,753	\$184,139	\$199,080	\$2,093,117	\$2,468,346
42094220 Professional/Hired Service	\$0	\$0														
ARC Design Integration	\$0	\$0													\$0	\$0
Design Review (Multidisciplinary External experts 50%, 90%, Final)	\$0	\$0				\$300,000	\$300,000						\$400,000	\$400,000	\$1,400,000	\$1,400,000
Procurement Engineering	\$0	\$0													\$0	\$0
Moltex Design Integration	\$0	\$0													\$0	\$0
Design Review - WATSS (Multidisciplinary External experts 50%, 90%, Final)	\$0	\$0													\$0	\$0
Design Review - SSR-W (Multidisciplinary External experts 50%, 90%, Final)	\$0	\$0												\$300,000	\$300,000	\$300,000
Procurement Engineering	\$0	\$0													\$0	\$0
Grid System Impact Studies	\$0	\$0	\$25,000	\$25,000											\$50,000	\$50,000
Engineering Studies (Cooling Water: 4500506466, Campus Plan etc)	\$0	\$133,410	\$30,000	\$30,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$310,000	\$443,410
Utility Requirements Development (Kinetics - 4500502654)	\$0	\$183,368	\$30,000	\$20,000	\$20,000	\$20,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$125,000	\$358,368
Digital Strategy	\$0	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$10,000								\$70,000	\$70,000
4380 Engineering Software	\$0	\$0								\$10,000	\$10,000	\$10,000			\$30,000	\$30,000
Sub-Total:	\$77,598	\$680,487	\$184,446	\$195,753	\$201,753	\$641,446	\$594,080	\$222,753	\$231,446	\$256,753	\$231,753	\$221,753	\$819,139	\$923,080	\$4,364,117	\$5,122,202

*** NB Power Confidential and Commercially Sensitive ***

NB SMR Program Phase 2 - FY22/23

Cost Area/Element	FY2020/21	FY2021/22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	FY 2022/23 Total	Phase 2 Sub-Total
Site Evaluation (LEPSMR13000)																
4040 NBP Employee																
Sub-Total: Regular Labour and Benefits	\$74,994	\$263,684	\$53,086	\$53,852	\$53,852	\$53,066	\$54,618	\$53,852	\$53,086	\$53,852	\$53,852	\$53,852	\$52,320	\$54,618	\$643,926	\$994,005
4200/4220 Professional/Hired Service																
EA/Site Study Roadmap (Golder - 4500601253)	\$0	\$42,491													\$0	\$42,491
EA/Site Evaluation Consultant (Wood PO xxxx)	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$240,000	\$260,000
Engineering Studies Consultant (Kinetics - 4500502947)	\$0	\$193,460	\$50,000	\$50,000	\$50,000	\$50,000	\$50,060	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$600,000	\$793,460
Field support	\$0	\$0													\$0	\$0
Engineering support (reviews and LTFS support) (xxxx PO xxxx)	\$0	\$0					\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$48,000	\$48,000
EA Process Coordination Support (Site Eval Report prep)	\$0	\$0								\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000	\$100,000
Site EA Studies - (Stantec - 4500495146)	\$53,287	\$10,933	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$64,220
Site EA Studies - (Stantec - 4500495146)	\$0	\$61,943													\$0	\$61,943
SME Support of Site EA Studies (stage 1a) - (JE Wilson - 4500498854)	\$0	\$20,000													\$0	\$20,000
EA Baseline Studies (Roll-up Forecast)																
Atmospheric Env't - Baseline Air Quality and Noise	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$90,000	\$100,000
Climate Change - Overall Assessment and Evaluation of Natural External Events	\$10,000	\$10,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$175,000	\$185,000
Terrestrial Environment - Species and Vegetation Phase II	\$0	\$10,000	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000	\$20,000	\$15,000						\$130,000	\$110,000
Aquatic Env't - Freshwater Phase	\$0	\$5,000	\$5,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$90,000	\$90,000
Aquatic Env't - Marine Phase I (if req'd)	\$0	\$0							\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$80,000	\$50,000
Aquatic Env't - Marine Phase II (if req'd)	\$0	\$0													\$0	\$0
ERA	\$0	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$180,000	\$180,000
Noise/Sound (ambient/submarine)	\$0	\$0													\$0	\$0
Physical and Cultural Heritage	\$0	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000	\$20,000	\$10,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$125,000	\$125,000
Socio-economic (incl. GBA, Health, Recreation, Tourism)	\$0	\$10,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$15,000				\$165,000	\$165,000
Site Engineering Studies																
Hydrology Study (Genlec 4500511200)	\$56,221	\$10,000	\$10,000	\$15,000	\$15,000	\$15,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$120,000	\$170,221
Geological and Geotechnical Study (CBCL 4500313339)	\$10,000	\$10,000	\$30,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$400,000	\$410,000
Seismic (incl. volcanic hazards)	\$0	\$0	\$10,000	\$20,000	\$20,000	\$20,000	\$20,000	\$10,000							\$80,000	\$80,000
Flooding Hazard	\$0	\$10,000	\$15,000	\$15,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$80,000	\$80,000
Metereological Hazards	\$0	\$10,000	\$10,000	\$15,000	\$15,000	\$15,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$80,000	\$80,000
Evaluation of External, Non-malvolent, Human induced Events	\$0	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$110,000	\$110,000
Preliminary PSA / Det. Safety Analysis	\$0	\$0					\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$500,000	\$500,000
Evaluation against Safety Goals - site perspective	\$0	\$0						\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$200,000	\$200,000
Effects of the Project on the Env't - Waste Mgmt and Decomm.	\$0	\$0							\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$96,000	\$96,000
Dispersion of Radioactive and Chemical Material	\$0	\$0							\$10,000	\$20,000	\$20,000	\$10,000	\$10,000	\$10,000	\$80,000	\$80,000
Adequacy of Site WW Systems	\$0	\$0							\$10,000	\$30,000	\$30,000	\$30,000	\$30,000	\$10,000	\$110,000	\$110,000
Transportation Planning	\$0	\$0							\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$80,000	\$80,000
Site Selection Threat and Risk Assessment	\$0	\$0							\$20,000	\$20,000	\$15,000	\$15,000	\$20,000	\$20,000	\$110,000	\$110,000
Evaluation: Emergency Preparedness (Calian 4500512766)	\$0	\$5,000	\$10,000	\$10,000							\$15,000	\$15,000	\$20,000	\$20,000	\$110,000	\$110,000
Evaluation: Rad Protection	\$0	\$0										\$25,000	\$25,000	\$25,000	\$100,000	\$100,000
Safeguards and Non- proliferation	\$0	\$0										\$25,000	\$25,000	\$25,000	\$100,000	\$100,000
Site Engineering Studies (Big Fine work)	\$0	\$840													\$0	\$840
Traditional Indigenous Knowledge Studies																
Traditional Indigenous Knowledge Studies (Peskotomuhkati)	\$0	\$0		\$15,000	\$15,000	\$15,000	\$20,000	\$20,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$160,000	\$160,000
Traditional Indigenous Knowledge Studies (Kopik Lodge)	\$0	\$0		\$15,000	\$15,000	\$15,000	\$20,000	\$20,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$160,000	\$160,000
Traditional Indigenous Knowledge Studies (MTI)	\$0	\$0		\$15,000	\$15,000	\$15,000	\$20,000	\$20,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$160,000	\$160,000
Traditional Indigenous Knowledge Studies (WNNB)	\$0	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$30,000	\$30,000	\$30,000	\$30,000	\$160,000	\$160,000
Site/Engineering Studies (Additional for SSR-W/ WATSS)																
Desktop Gap Analysis (Fundy Engineering - 4500484541)	\$1,070	\$0						\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$700,000	\$700,000
Sub-Total:	\$129,351	\$720,674	\$266,086	\$328,652	\$423,652	\$423,066	\$415,618	\$384,652	\$384,086	\$389,852	\$374,852	\$349,852	\$353,320	\$380,618	\$5,676,926	\$6,526,662

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NB SMR Program Phase 2 - FY22/23

Cost Area/Element	FY2020/21	FY2021/22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	FY 2022/23 Total	Phase 2 Sub-Total
Engagement (LEPSMR14000)																
4040 NBP Employee																
Sub-Total: Regular Labour and Benefits	\$14,114	\$117,515	\$11,400	\$11,800	\$11,800	\$11,400	\$12,200	\$11,800	\$11,400	\$11,800	\$11,800	\$11,800	\$11,000	\$12,200	\$140,400	\$272,030
4200(4220) Professional/Hired Service	\$0	\$0														\$0
Indigenous Engagement Owner support (Stone Bear - 4500501861)	\$0	\$19,898	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$48,000	\$67,898
Indigenous Engagement Owner support (North Shore MDC PC VP)		\$18,000	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$54,000	\$72,000
Indigenous Engagement (Funding Agreements)	\$14,702	\$74,689			\$33,750			\$33,750			\$33,750			\$33,750	\$135,000	\$234,391
Youth Engagement Strategy Development (Atlanica 4500505382)		\$10,000													\$0	\$10,000
Civil Society Engagement Support		\$9,000	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$4,500	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$91,000	\$90,000
Indigenous Engagement Support (Candice Narve 4500512751)		\$4,000	\$2,000	\$2,000	\$2,000										\$6,000	\$10,000
Website creation and maintenance (Ginger 4500497445)	\$6,800	\$8,000						\$2,000							\$2,000	\$17,800
Soundstripe Music Subscription		\$100													\$0	\$198
Strategic Advice on Engagement (North Shore Council 4500503430)		\$50,000													\$0	\$50,000
Strategic Advice on Engagement (CC Goodwin 4500510506)		\$18,835	\$5,000	\$5,000	\$5,000	\$5,000									\$20,000	\$38,835
Strategic Advice on Engagement (Hatch PC 45005051413)		\$10,057													\$0	\$10,057
Seminar and Symposium Sponsorship (not eligible for ACDA claim)	\$5,357	\$18,707					\$15,000				\$15,000				\$30,000	\$54,324
4100 Material (engagement material) - Not eligible for ACDA claim	\$1,201	\$2,464	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$12,000	\$15,665
Sub-Total:	\$42,335	\$367,888	\$32,400	\$32,800	\$36,800	\$33,400	\$41,200	\$41,500	\$39,900	\$43,300	\$43,600	\$43,300	\$42,500	\$44,400	\$528,400	\$938,024
Finance/Business (LEPSMR15000)																
4040 NBP Employee																
Sub-Total: Regular Labour and Benefits	\$62,341	\$191,171	\$0	\$0	\$0	\$13,000	\$13,000	\$13,000	\$26,000	\$26,000	\$26,000	\$26,000	\$26,000	\$26,000	\$195,000	\$468,512
4200(4220) Professional/Hired Service																
Strategic Advisor (Branch Nuclear PC xxx)		\$20,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$150,000	\$170,000
Owner Consortium Investor/Partner - ARC (1 FTE and Research)	\$0	\$25,000	\$20,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000							\$220,000	\$245,000
Legal - Preliminary Contract Development - ARC	\$0	\$15,000	\$20,000	\$10,000	\$20,000	\$20,000	\$20,000	\$20,000							\$110,000	\$125,000
Owner Consortium Investor/Partner - Moltex (1 FTE and Research)	\$0	\$0							\$20,000	\$20,000	\$20,000	\$30,000	\$30,000	\$30,000	\$150,000	\$150,000
Legal - Preliminary Contract Development - Moltex	\$0	\$0							\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$60,000	\$60,000
Project Analyst (vender)	\$0	\$0							\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$60,000	\$60,000
Scheduling Support 0.25 FTE (PDC Subs - 4500501533)	\$0	\$78,000	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500	\$90,000	\$168,000
PPA Framework Development (in-house Corporate)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
430(4320) Travel for Meetings with Investors	\$0	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$120,000	\$130,000
Sub-Total:	\$62,341	\$339,251	\$72,500	\$62,500	\$62,500	\$105,500	\$105,500	\$105,500	\$93,500	\$93,500	\$93,500	\$103,500	\$103,500	\$103,500	\$1,185,000	\$1,578,592
Management Systems/QA/QA (LEPSMR16000)																
4040 NBP Employee																
Sub-Total: Regular Labour and Benefits	\$58,903	\$367,740	\$38,991	\$40,467	\$40,467	\$38,991	\$41,942	\$40,467	\$38,991	\$40,467	\$40,467	\$40,467	\$37,515	\$41,942	\$481,173	\$907,326
4200(4220) Professional/Hired Service	\$0	\$0														
Management System/QA Specialist	\$0	\$0			\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$150,000	\$150,000
Management System/QA Specialist	\$0	\$0			\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$150,000	\$150,000
Quality/QA Specialist	\$0	\$0			\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$150,000	\$150,000
Sub-Total:	\$58,903	\$367,740	\$38,991	\$40,467	\$65,467	\$63,991	\$66,942	\$65,467	\$63,991	\$65,467	\$65,467	\$65,467	\$62,515	\$66,942	\$391,173	\$1,357,818
Operational Readiness (LEPSMR17000)																
4040 NBP Employee																
Sub-Total: Regular Labour and Benefits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$120,000	\$120,000
4200(4220) Professional/Hired Service																
Operational Specialist (Design review) 0.5 FTE	\$0	\$0	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$180,000	\$180,000
Sub-Total:	\$0	\$0	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$300,000	\$300,000

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NB SMR Program Phase 2 - FY22/23

Cost Area/Element	FY2020/21	FY2021/22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	FY 2022/23 Total	Phase 2 Sub-Total
Project Total - Period	\$565,142	\$3,542,382	\$820,731	\$891,422	\$1,079,172	\$1,366,731	\$1,369,113	\$1,276,172	\$1,252,231	\$1,278,922	\$1,279,672	\$1,251,922	\$1,620,540	\$1,796,363	\$15,280,990	\$19,388,514
Project Total - FY Cumulative			\$520,731	\$1,712,153	\$2,791,325	\$4,158,056	\$5,527,168	\$6,803,340	\$8,065,571	\$9,332,493	\$10,612,165	\$11,864,087	\$13,484,627	\$15,260,990		
Labour benefits not eligible for claim (only 15% is eligible)	\$15,646	\$80,281	\$11,216	\$11,462	\$13,156	\$15,796	\$15,729	\$16,025	\$17,304	\$18,694	\$18,694	\$18,694	\$18,694	\$18,961	\$18,961	\$289,458
Costs not eligible for Claim	\$76,014	\$121,171	\$12,716	\$12,982	\$14,668	\$16,896	\$32,229	\$17,525	\$18,904	\$20,194	\$39,194	\$20,194	\$19,661	\$20,461	\$245,026	\$442,511
Total Cost Eligible for Claim	\$489,126	\$3,421,211	\$808,515	\$879,960	\$1,066,016	\$1,350,935	\$1,336,883	\$1,259,647	\$1,233,427	\$1,258,728	\$1,240,478	\$1,231,728	\$1,600,879	\$1,775,902	\$15,035,964	\$18,946,003
Eligible Costs at 50% Assistance Rate	\$1,176	\$2,234	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$24,000	\$27,409
Eligible Costs at 90% Assistance Rate	\$487,950	\$3,418,977	\$806,515	\$877,960	\$1,064,016	\$1,348,935	\$1,334,883	\$1,257,647	\$1,231,427	\$1,256,728	\$1,238,478	\$1,229,728	\$1,598,879	\$1,773,902	\$15,011,964	\$18,918,593
NB Power Contribution	\$125,397	\$464,186	\$94,317	\$101,626	\$121,919	\$152,500	\$106,718	\$144,190	\$142,947	\$146,667	\$104,042	\$144,107	\$180,549	\$196,851	\$1,758,492	\$2,348,075
ACOA Contribution	\$439,745	\$3,078,196	\$726,414	\$789,796	\$957,253	\$1,214,231	\$1,202,395	\$1,131,982	\$1,109,285	\$1,130,255	\$1,115,630	\$1,107,755	\$1,439,991	\$1,597,512	\$13,522,498	\$17,040,439

NB Power Contribution (Project 217643)	\$125,397	\$464,186	\$683,900	\$781,684
ACOA Contribution (Project 217643)	\$439,745	\$3,078,196	\$4,244,355	\$4,989,669

NB Power Contribution (Phase 2b Application)	\$3,842	\$125,761	\$278,261	\$444,978	\$589,168	\$732,115	\$678,781
ACOA Contribution (Phase 2b Application)	\$34,581	\$991,835	\$2,296,066	\$3,408,460	\$4,540,443	\$5,649,727	\$6,779,982

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small reactors big opportunities

Investing in Small Modular Reactor (SMR) technology is a made in New Brunswick contribution to the low carbon economy

The future is now, and low carbon technologies are in the forefront.

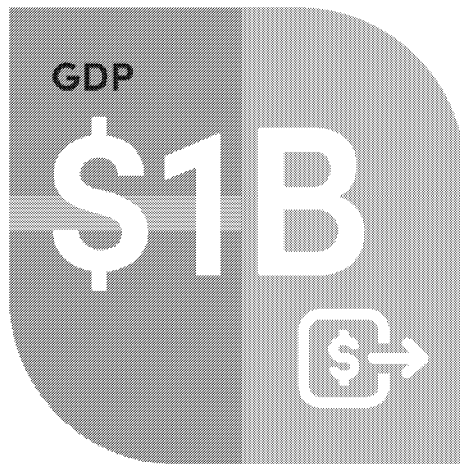
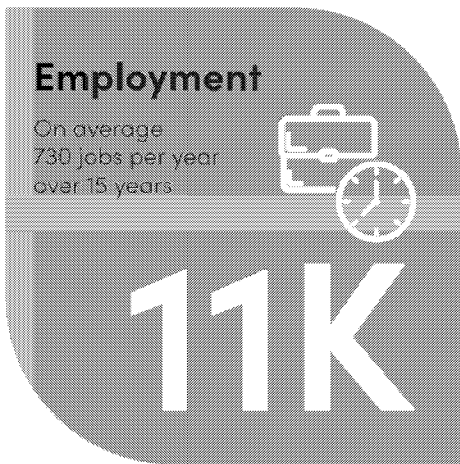
New Brunswick is part of the pan-Canadian SMR Action Plan initiative, under the leadership of Natural Resources Canada Nuclear Energy division, so that we can be part of harvesting benefits for our customers – energy security, emission reductions, well-paid jobs, and business growth.

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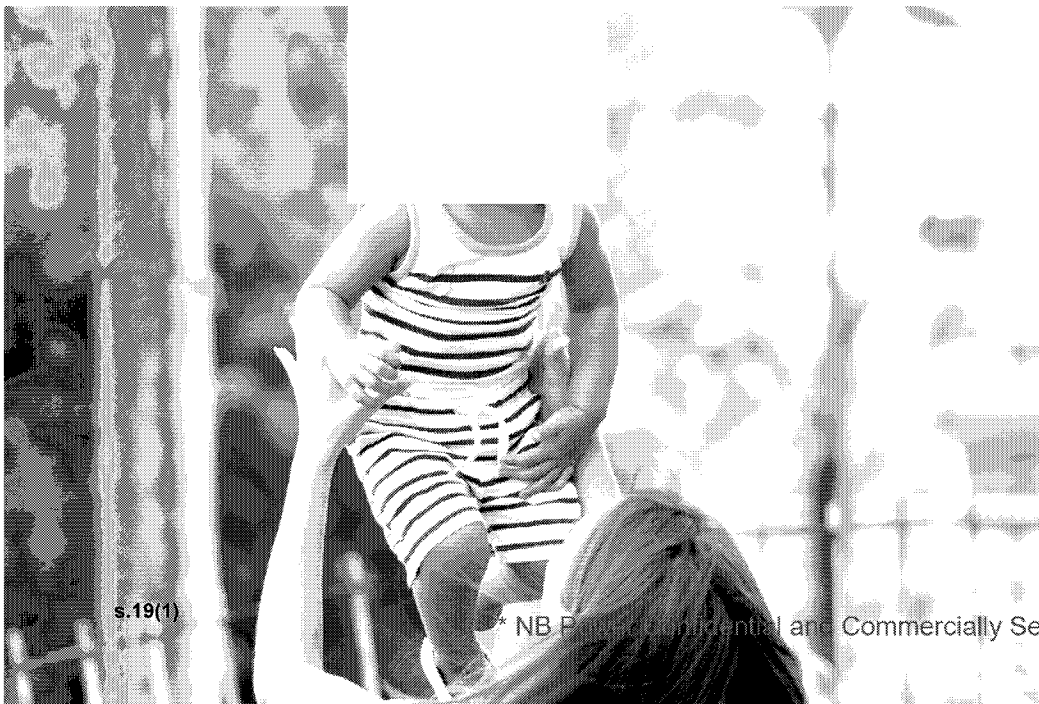
**small
modular
reactors**

technology development
and construction of
demonstration units will be
a **valuable contributor** to
the provincial economy

New Brunswick will be the centre of excellence for the development of the advanced SMR technology in the 2020-2035 time period. We plan to build the two demonstration units at the Point Lepreau Nuclear Generating Station site.



Direct and Indirect in New Brunswick



successful designs will then progress to **national and international markets**

New Brunswick will be the hub for supply chain and technical support as the New Brunswick SMR technology is deployed in Canada and internationally.

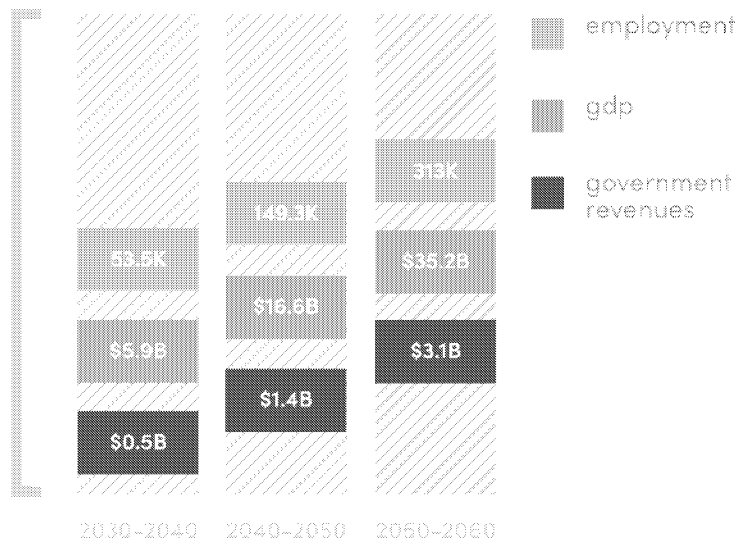
The economic benefits will go beyond New Brunswick and significant positive impact will be felt Canada wide as the technology grows.

total economic impact – supply chain, construction, operation and fleet technical support

New Brunswick



Canada



The analysis considered successful deployment of both New Brunswick SMR technologies in Canada, and internationally, considering factors such as electricity demand, replacement of fossil fuel generation, expected capital costs and expected levelized cost of electricity. Three market penetration scenarios for New Brunswick SMR technologies were used. The figures represent the average number of jobs over the period of time.



SMR development – a centrepiece of nuclear **innovation** and economic **growth**

A state-of-the-art SMR production program brings countless benefits to New Brunswick as part of the pan-Canadian program to grow the low carbon economy of the future.

SMR unit installation is forecast to grow at a rapid pace creating jobs, spin-off new businesses, and government revenues to invest in New Brunswick public services.

For More Information Contact

SMR@nbpower.ca

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Attachment 8: Staffing Plan, Rev. 22-03-15

Phase 2b Resources and Estimated Employment:

Phase 2b includes the last part of FY22/23 QTR1, all of QTR2, and most of QTR3. NB Power project staffing through the first 3 quarters of FY22/23 will be ramped up to support the increased number of project activities required to be progressed. It is anticipated that by the end of FY22/23 QTR3 NB Power will be employing 29 full-time staff and 15 contractors in support of the project. Based on PLNGS historical contributions, corporate services costs represent 12% of O&M costs. Using this factor, during this period the estimated \$7.66M overall project cost will represent an in-kind contribution of \$0.92M or 8 FTEs.

In addition, during the Phase 2b period NB Power are expecting to have services contracts in the value of \$3.9M which represents an estimated 32 FTEs on an annual basis (assuming an average of \$120k/employee.)

Area	FTEs
NB Power	29
NB Power – In Kind	8
Contractors	15
Contracted Services	32
Total	84

Table 1: Phase 2b Owner/Operator Employment

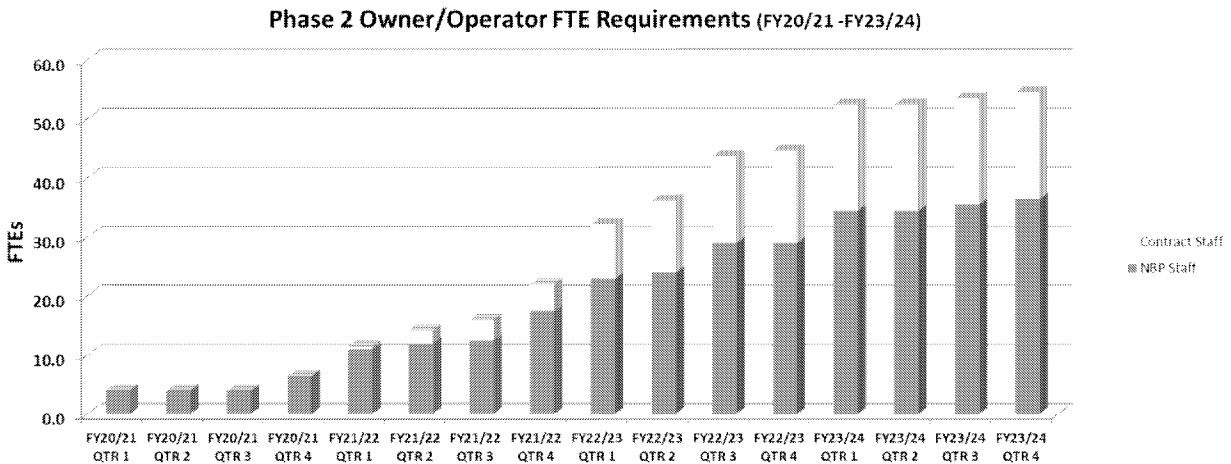


Figure 1: NB Power Phase 2 Staffing plan

Attachment #9: Background Information, Rev. 22-03-15

Background on SMR Development and Deployment in New Brunswick

Summary

Nuclear Power is an essential component to meet Canada's goal of net zero carbon emissions by 2050. This will require continued operation of the existing nuclear fleet, including life extension, and the installation of new nuclear installations. Small Modular Reactors (SMRs) with their lower cost and affordability will play an essential role. The industry has identified an equal priority, three stream approach as a Pan Canadian vision for the development and deployment of SMRs in Canada. Stream 2 is the advanced generation 4 reactors being development in New Brunswick.

In 2018, the New Brunswick Government invested \$10M to assist the development of two advanced Generation IV SMR designs, the ARC-100 by ARC Nuclear Canada Inc., and the Moltex SSR-W with its accompanying fuel conversion facility by Moltex Energy Canada. These advanced SMR designs bring a multitude of additional benefits such as increased levels of safety which lead to simple low-cost designs and the ability to effectively recycle their own used fuel and reduce current inventories of used CANDU fuel. They have co-generation capabilities for potential application with heavy industry, desalination or hydrogen production, superior load following characteristics to support the intermittent nature of renewable forms of electricity production and have the potential of a substantial export market. The ARC Nuclear ARC-100 and the Moltex SSR-W technologies have different market applications and are well suited for Canadian and international markets.

Supply chain assessment studies by both vendors have shown that between 50 to 60% of the components could be manufactured in New Brunswick and this figure could be increased with some capability development. Much of the remaining components can be supplied within the rest of Canada. This high percentage is made possible due to the simplicity of design resulting from the inherent safety characteristics; however the capacity of the New Brunswick supply chain facilities will need to be expanded considerably to meet the anticipated demand. The vision is to develop the supply chain, principally in New Brunswick, and demonstrate both technologies at the Point Lepreau site in the early to mid 2030's.

The Stream 2 advanced Generation IV SMRs have the potential to create economic benefits for Canada for demonstration units in New Brunswick, a fleet of Canadian units and a fleet of export units up to 2060 of:

- 537,000 person-years of Direct and Indirect employment
- a positive impact on GDP (Direct and Indirect) of \$59B
- an increase of Federal revenue of over \$5.2B

Central to the concept of fleet deployment is control over changes to design as well as how the units are operated and maintained. A central fleet services concept centred in New Brunswick is pivotal in keeping both capital as well as Operating and Maintenance costs low and to maximize the supply chain opportunity.

Early engagement is a key element of the program. Over the past few years, NB Power has been actively progressing engagement activities with First Nations representatives and the general public. This two way dialogue is important to disseminate information about SMRs but also listen and understand about potential concerns and issues.

NB Power is fully involved in the overall SMR activities in Canada. NB Power was on the steering Committee and most of the working groups that developed the Pan Canadian SMR Roadmap, and is active in the CEO SMR forum, the COG SMR Technical Forum and task teams, the CNA/COG SMR secretariat, and the SMR Action Plan Steering Committee.

Additional Details

As part of the overall energy supply planning and to address the requirements for green-house gas emission reductions, starting in 2017, NB Power reviewed various nuclear supply options. The potential benefits of the emerging SMR market was noteworthy and warranted further assessment. As a result, NB Power examined the potential benefits of various grid sized SMR technologies for New Brunswick.

NB Power reviewed a large selection of small modular reactors technologies for on-grid application. Based on a number of criteria such as increased level of nuclear safety, proliferation resistance, reliability, environmental sustainability, reduction in waste volumes, fuel supply, cost competitiveness, technological readiness, public acceptance and potential for economic benefits, NB Power focused on advanced fast neutron spectrum reactors.

Advanced fast spectrum SMRs are generally known as Generation IV reactors. They use a coolant other than water, such as molten salt or sodium and have inherent safety characteristics, simpler design, lower cost, ability to recycle their own used fuel, and will have superior ability to follow the intermittent output from renewable power sources. Conventional nuclear reactors do not produce much high-level radioactive waste (HLRW) because they are a high-density power source. Advanced fast reactors can reuse their own used fuel many times over to produce up to about 100 times less (HLRW) than their Generation III predecessors and with a relatively shorter life cycle for disposal. Furthermore, these SMRs have the ability to reuse CANDU used fuel reducing the volume and associated long term storage requirements.

Reactor designs that have the above-mentioned attributes, when combined with today's advanced manufacturing and modularization techniques are expected to be cost competitive

with fossil fuel generation and would present a tremendous opportunity for New Brunswick and Canada.

Aware of this opportunity, and the advantages that Canada has to progress the development and deployment of SMRs as identified in the Pan-Canadian SMR Roadmap, in the summer 2018, the Government of New Brunswick committed \$10 million toward the establishment of an advanced SMR Research Cluster in New Brunswick. Based on the earlier technology review, Moltex Energy and Advanced Reactor Concepts (ARC) through its subsidiary ARC Nuclear Canada, Inc. (ARC Nuclear), were selected and elected to join the cluster, each investing matching funds of \$5 million to progress research and development of their advanced technologies.

In addition to the broad benefits of SMRs such as low carbon emissions and factory build supporting rapid deployment, these advanced reactors share the following specific characteristics;

- The reactivity feedback is such that if they get too hot the power automatically decreases without any intervention, so the fuel can't overheat avoiding fission product release from the fuel
- They are non-pressurized pool type reactor designs so there is no large pressure difference to provide a motive force for fission product transport should the fuel fail for any reason
- The coolants have excellent fission product retention characteristics should fuel fail for any reason
- More inherent safety characteristics and use of low-pressure reactor vessels means the reactor requires many less engineered systems and components leading to lower construction costs and less operating and maintenance staff leading to lower Operating and Maintenance costs
- The physical nature of the designs provides excellent load following capability leading them to support a grid with a larger component of renewable energy
- They produce high temperature steam which allows them to have co-generation capability for use with either industrial applications as well as hydrogen production.
- They can recycle their used fuel repeatedly leading to significantly lower volumes of high-level radioactive waste and wastes with significantly shorter decay times.

In terms of their unique attributes;

The ARC-100 is a 100 MW(e) liquid sodium cooled fast reactor. It uses HALEU metallic fuel and has a 20-year refuelling cycle. It is a proven technology as demonstrated by the Experimental Breeder Reactor II (EBR-II) at Argonne National Laboratories. This prototype ran safely and effectively for more than 30 years. EBR-II also demonstrated the ability to recycle its used fuel and the use of other types of fuel.

The Moltex SSR-W is a 300MW(e) stable salt fast reactor. Its liquid fuel is derived from used Uranium Dioxide fuel, such as used CANDU fuel using the WASTE to Stable Salt (WATSS) process.

s.20(1)(a)
s.20(1)(b)
s.20(1)(c)
s.20(1)(d)

Since 2018, both vendors have established offices in Saint John New Brunswick and hired staff, progressed their designs, progressing through the CNSC Vendor Design Review process, advanced their project planning, and worked with UNB to establish chair positions, curriculum, and plans for R&D to be performed at CNER/UNB. Both vendors have performed supply chain studies and have held discussions related to establishing a supply chain in New Brunswick. They have also been active in discussions and engagement within the province to increase understanding of advanced Small Modular Reactor technologies.

NB Power has been actively progressing engagement activities with First Nations representatives and the general public to both inform and to listen to potential concerns. They are also providing technical support to the vendors, conducting site evaluation studies, progressing pre-licensing activities, and progressing project and business planning activities.

Both Vendors have also been actively progressing activities to ensure that fuel will be available in a timeline to supply the demonstration units.

s.20(1)(a)

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

*** NB Power Confidential and Commercially Sensitive ***

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The ARC Nuclear ARC-100¹ and the Moltex SSR-W² technologies have different market applications and are well suited for Canadian and international markets.

NB Power staff are supporting this endeavor by engaging with the vendors, Government and NB academia to provide assistance to increase the likelihood of success and to progress overall planning. NB Energy and Resource Development staff resources continue to support the initiative through regular engagement with the vendors, NB Power, Government, and NB academia.

New Brunswick is an attractive location because it has a population that is generally supportive of nuclear power and has an experienced nuclear operator with a solid reputation with the regulator. The Point Lepreau Nuclear Generating Station site is attractive and is a valuable strategic asset to the province. It is well characterized and can accommodate at least two demonstration reactors in addition to the existing well run nuclear plant. There have also been a number of environmental and ecological risk assessments performed over the years providing an excellent base to draw upon.

The motivation or value proposition for the province of New Brunswick for the development and deployment of advanced Generation IV SMRs is the establishment of a new industrial supply sector and fleet support services to supply modules, equipment, and services for these advanced designs aimed at both the Canadian and international markets. This supply sector would be largely based in New Brunswick and would build upon and leverage the existing strong Canadian Nuclear Supply chain that is largely centered in Ontario.

This is possible due to the market opportunities arising from the additional advantages the Stream 2 advanced generation IV SMRs designs bring.

Recognizing both the need for ever increasing energy demand around the world, and the need to reduce the carbon footprint, these designs address many of the current reservations the general public has towards nuclear and are projected to be cost competitive with other forms of energy and affordable in terms of capital cost. This results in a potential market not only

¹ <https://www.arcnuclear.com/arc-100-reactor>

² <https://www.moltexenergy.com/stablesaltreactors/>

within New Brunswick with potential export to neighbouring jurisdictions, but elsewhere in Canada and more significantly internationally.

Information from market studies, supply chain assessments, construction, site operation and fleet services operation were used to produce an economic impact assessment of the potential of the Stream 2 technologies. Based on the results of the NB SMR Economic Impact Analysis³, the activities required to develop the technologies, finalize the designs, construct/commission, and complete the owner/operator pre-operational activities for the two NB advanced on-grid SMR demonstration units at Point Lepreau will have the following one-time economic impact during the 2020-2035 timeframe:

Table 1 NB SMR Technology development and two demonstration units (2020-2035)

Technology development and demonstration units	Person-years of employment	GDP	Government Revenue
New Brunswick	11,280	\$1.06B	\$120M
Canada	21,870	\$2.15B	\$198M

The successful development of the technologies and operation of the demonstration units will lead to fleet deployment in New Brunswick, Canada and Internationally. The graphs in *Figure 1* and *Figure 2* include the potential economic impact of the deployment of fleets of both NB SMR Technologies. They include impacts from engineering, supply chain, construction, commissioning, operation, and on-going fleet technical support and assume a fleet size of 1 GW(e), 4 GW(e), and 50 GW(e) in New Brunswick, rest of Canada and Internationally respectively.

³ small reactors, big opportunities – Investing in Small Modular Reactor (SMR) technology is a made in New Brunswick contribution to the low carbon economy. <https://www.nbpower.com/en/about-us/in-the-community/point-lepreau-nuclear-generating-station>

New Brunswick

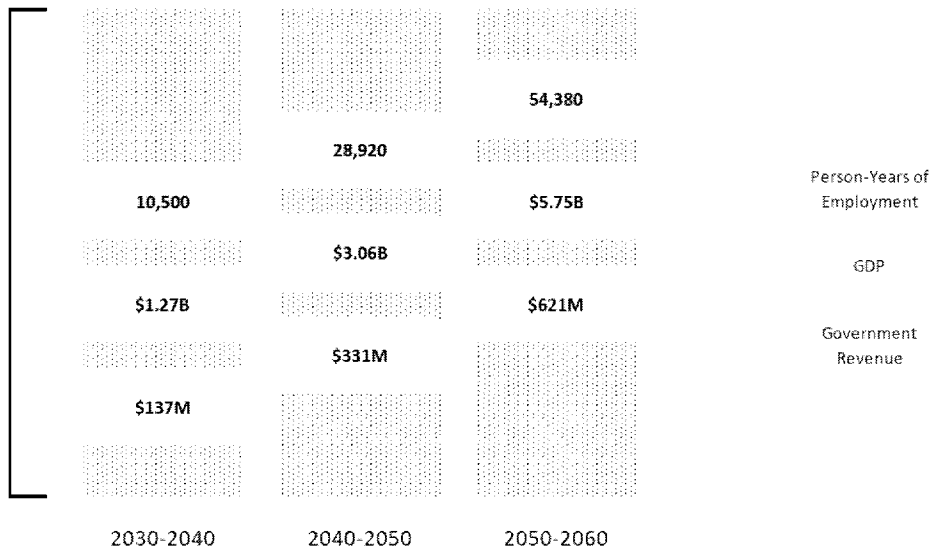


Figure 1 New Brunswick economic impact of fleet deployment

Canada

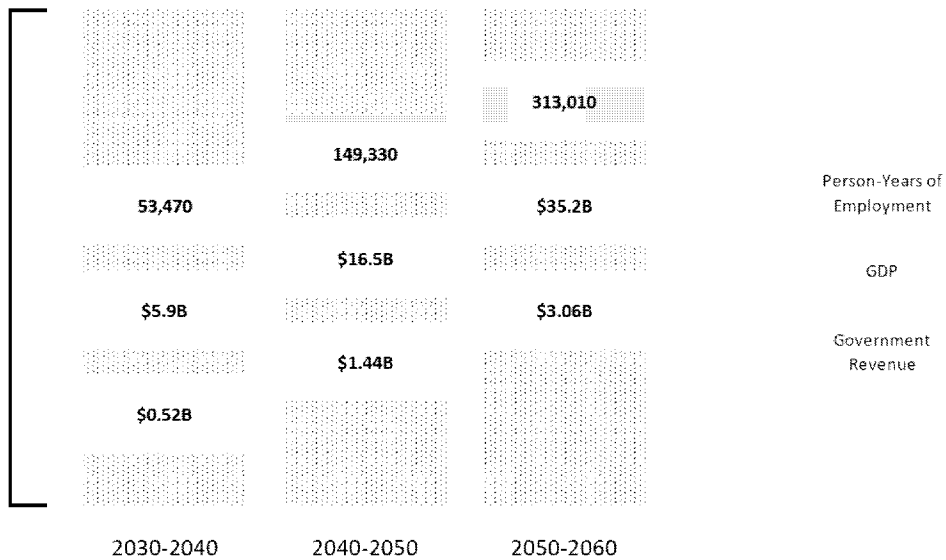


Figure 2 Canadian economic impact of fleet deployment

The all of Canada results indicate the value proposition for Canada is analogous to that for New Brunswick; that being economic development, clean energy to meet demand and fight climate change, and fuel the growth of science and innovation.

NB Power works closely with the rest of the Canadian Nuclear Industry to progress a Pan-Canadian vision for the development and deployment of Small Modular Reactors. NB Power, along with the province of New Brunswick was involved with NRCan, other representatives of the Canadian Nuclear industry and like-minded Provinces and Territories in the creation of the SMR Roadmap that was released in 2018. Likewise, NB power and the New Brunswick Government contributed to the SMR Action Plan that was released in December 2020. NB Power works closely with Ontario Power Generation, Bruce Power, SaskPower, Canadian Nuclear Laboratories, the Canadian Nuclear Association and the Candu Owners group on the SMR CEO forum to co-ordinate activities to progress the development and deployment of SMRs in Canada. NB Power is also on the SMR secretariat, which is made up of similar groups plus Cameco, which tracks the progress on key actions from the SMR Roadmap and Action Plan. NB Power also works with Ontario Power Generation, Bruce Power and SaskPower to support the Inter-Provincial MOU on SMRs between the provinces of New Brunswick, Ontario, Saskatchewan and Alberta. NB Power is also a member of the Candu Owners Group SMR Technology Forum along with OPG, Bruce Power, SaskPower and CNL to guide specific common technical work in support of the development and deployment of SMRs in Canada.

**Pages 1283 to / à 1286
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21(1)(a), 21(1)(b), 21(1)(c)

**of the Access to Information Act
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**Pages 1287 to / à 1288
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14, 20(1)(b), 21(1)(a), 21(1)(b), 21(1)(c)

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de la Loi sur l'accès à l'information**

Page 1289

**is withheld pursuant to sections
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14, 20(1)(b), 21(1)(b), 21(1)(c)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

From: [Sam Fotia](#) on behalf of [Sam Fotia](#)
To: [Josh Jenkins](#); [Luke Bulmer](#);
Subject: RE: ARC Canada
Sent: 6/20/2022 3:13:07 PM

Sorry one more

Any firm decisions?
Again, any discussions outside of NB that in advanced stages?

From: Sam Fotia
Sent: Monday, June 20, 2022 2:11 PM
To: Josh Jenkins ; Luke Bulmer
Subject: RE: ARC Canada

Hi Josh,
I did a quick view. A few questions/comments

-
-
-
-

Might have more later but we can get that to ARC
Sam

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Monday, June 20, 2022 1:14 PM
To: Sam Fotia <Sam.Fotia@ACO-APECA.GC.CA>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Subject: FW: ARC Canada

See attached... any comments you think I should share with ARC? Meeting them for coffee later this afternoon at 3:30 my time...

Josh

From: [@arcenergy.co](#)
Sent: Monday, June 20, 2022 1:01 PM
To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACO-APECA.GC.CA>; Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: [@arcenergy.co](#)
Subject: ARC Canada

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MISE EN GARDE: Ce courriel provient d'une source extérieure. Méfiez-vous des liens ou pièces jointes qu'il pourrait contenir.

Good Afternoon Kalie & Josh,
The team is looking forward to our discussion As a follow-
up to our discussion last week, we wanted to share with you the finalized e-version of the presentation for your files.
We look forward to meeting Josh in-person later today.
Kind Regards,

s.19(1)
s.20(1)(b)
s.20(1)(c)
s.21(1)(b)

Corporate Affairs & Human Resources

ARC Clean Energy Canada
Brunswick Square, Suite 900
1 Germain St, Saint John, NB E2L 4V1

P:

C:

www.arcenergy.co | [LinkedIn](#) | [Twitter](#)

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From: [Josh Jenkins](#)
To: [Laura DeLong](#); [Luke Bulmer](#);
Cc: [Heath Johnson](#); [Lindsay Walker](#);
Subject: RE: input on NRCan SMR program
Sent: 7/20/2022 12:02:00 PM

Thanks very much for this, Laura – very helpful! I'll share with our folks in Ottawa in advance of this afternoon's meeting. Thanks again,
Josh

From: Laura DeLong
Sent: Wednesday, July 20, 2022 9:48 AM
To: Josh Jenkins ; Luke Bulmer
Cc: Heath Johnson ; Lindsay Walker
Subject: RE: input on NRCan SMR program

Hi Josh: Thanks for sharing the document for comment. I have a few bullets below for your consideration, and will leave the supply chain comments to Luke given he's much closer to that project than me. Happy to discuss any and all of what is below.

Laura

General:

- It is great to see NRCan moving things along with this brief as nuclear energy is an important part of Canada's economy and energy mix (especially for us in NB) and is positioned to serve a critical function as a non-emitting and reliable source of electricity going forward.
- NB remains committed to enabling responsible SMR development – given our energy mix in NB, it is essential to secure a clean baseload complement to other renewable energy sources in New Brunswick, and to create opportunities for commercialization, supply chain development, and exports.
- ACOA's investments in Moltex, NB Power and CNER align with Canada's SMR Roadmap and Action Plan, a long-term vision for the development and deployment of this technology in Canada.
- ACOA should continue to advocate that federal departments should consult industry in determining their position on which SMR technologies should be supported. Since utilities will be the first market for these technologies, they are best positioned to speak to the market appeal of the various designs being proposed.

Specific:

Radioactive Waste Management and Minimization

- Moltex's innovative waste conversion technology has the potential to disrupt the nuclear industry by transforming nuclear waste into fuel for new reactors, creating a new way to manage existing nuclear fuel waste and as a result, I would suggest that NB may stand to benefit from NRCan's program described under the heading *Radioactive Waste Management and Minimization* as it appears that this will support work to advance SMR waste management initiatives, including technologies that have the potential to reduce potential SMR waste.

- ACOA supported Moltex (3M) to help demonstrate in a low-radioactive setting the foundational viability of its proprietary technology to convert used CANDU fuel into recycled fuel for SMRs. This technology aims to eventually reduce the cost, volume and toxicity of spent nuclear waste while producing clean electricity at low-cost.
- ISED also invested \$47.5M through SIF to develop a Stable Salt Reactor (SSR) that will produce emissions-free energy through the Waste to Stable Salts (WATSS) conversion process that recycles existing nuclear waste to fuel the production of clean energy.

SMR Fuel Supply

- The fuel source issue was highlighted in the SMR Action Plan as an area for development for federal departments and industry.
- It is promising to see that there is a dedicated program for SMR fuel supply given that the secure supply of high-assay, low-enriched uranium (HALEU) fuel is a concerning issue. Most North American reactor designs will require access to this fuel and at present, the only available source of HALEU fuel is through imports from Russia and further conversion at U.S.-based labs. While there is potential for a made-in-Canada supply in the long term, initial supply will need to come internationally to meet industry deployment timelines. This is an issue of serious concern for all who wish to see SMRs as an important part of the energy mix.

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Wednesday, July 20, 2022 8:22 AM

To: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Laura DeLong <Laura.DeLong@ACOA-APECA.GC.CA>

Cc: Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>

Subject: input on NRCAN SMR program

Hi Folks – see attached...

Just got this from NRCAN and have a meeting with them later today to provide our thoughts.

Would appreciate any input you have (Luke: particularly interested in your thoughts on the supply chain pillar, given our recent investments). Would be great if I could get some bullets by noon.

Not looking for a formal document or anything, just want to make sure the input I provide later today includes your thoughts/questions.

Thanks,

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626 / Cell: 506-227-9520 / TTY:1-877-456-6500

Directeur, Innovation, commerce et croissance des entreprises

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

Josh.Jenkins@canada.ca / Tél: 506-851-3626 / Cell: 506-227-9520 / ATS:1-877-456-6500

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

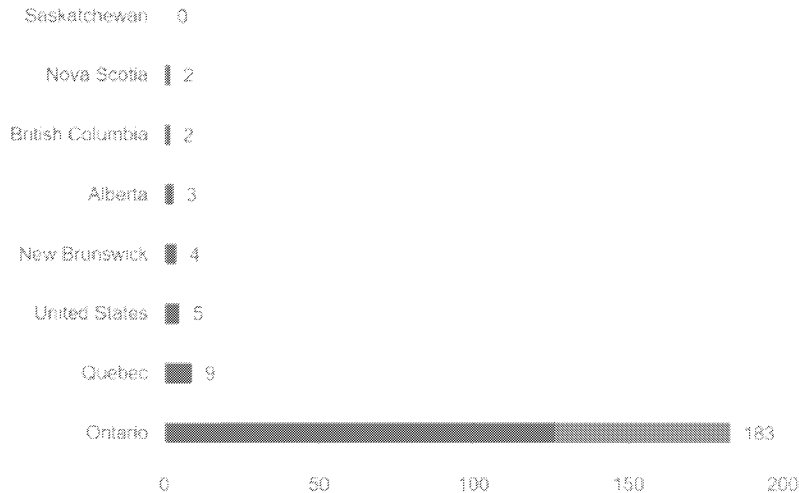
From: [Luke Bulmer](#)
To: [Laura DeLong](#); [Josh Jenkins](#);
Cc: [Heath Johnson](#); [Lindsay Walker](#);
Subject: RE: input on NRCan SMR program
Sent: 7/20/2022 12:05:56 PM

Hello Josh,

Notes on the SMR Supply Chain:

- World Nuclear Association expects 394 to 753 new nuclear reactors to come online by 2040
- Currently, the Canadian Nuclear Industry consists of 240 leading suppliers; of which over 200 are members of OCNI
 - Includes the two New Brunswick based SMR vendors Moltex Energy Canada and ARC Clean Energy Canada, as well as other Atlantic Canadian companies such as Sunny Corner Enterprises and OARO
- Today there are only 4 companies based in Atlantic Canada that partake in a \$6 billion/year Canadian industry with over 30,000 direct jobs, and most of the local nuclear business is supplied from outside New Brunswick
- ~ 50-60% of Moltex's design is expected to be manufactured within New Brunswick (<https://www.moltexenergy.com/new-brunswick-smr-opportunities/>) (No info regarding ARC's estimates)
- Conservative estimates suggest the global demand potential for the SMR market to be \$150 billion CAD with upper limits potentially at \$300 billion by 2040
- NB Power, ARC Clean Energy Canada (ARC Canada), & Moltex Energy took part in an advanced small modular reactor (aSMR) supply chain event on June 14th, 2022 – a sold out event attended by 270 suppliers, manufacturers, Indigenous community representatives, and government employees representing over 150 organizations from across New Brunswick and Canada
- ONB working to categorize companies within NB looking to enter the SMR Supply Chain, which will need to self-assess abilities and limitations through ONB's website
- OCNI's Ready4SMR's project launching in NB, project aims to quadruple the number of Atlantic Canadian companies that are qualified to support nuclear projects, with most expected to be within New Brunswick

Organization of Canadian Nuclear Industry Members



Happy to discuss further,
Thanks,
-Luke

From: Laura DeLong
Sent: Wednesday, July 20, 2022 9:48 AM
To: Josh Jenkins ; Luke Bulmer
Cc: Heath Johnson ; Lindsay Walker
Subject: RE: input on NRCan SMR program

Hi Josh: Thanks for sharing the document for comment. I have a few bullets below for your consideration, and will leave the supply chain comments to Luke given he's much closer to that project than me. Happy to discuss any and all of what is below.

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From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Wednesday, July 20, 2022 8:22 AM

To: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Laura DeLong <Laura.DeLong@ACO-APECA.GC.CA>

Cc: Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>

Subject: input on NRCan SMR program

Hi Folks – see attached...

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Would appreciate any input you have (Luke: particularly interested in your thoughts on the supply chain pillar, given our recent investments). Would be great if I could get some bullets by noon.

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

Not looking for a formal document or anything, just want to make sure the input I provide later today includes your thoughts/questions.

Thanks,

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626 / Cell: 506-227-9520 / TTY:1-877-456-6500

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**Pages 1298 to / à 1299
are not relevant
sont non pertinentes**

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Confidential: Stream 2 support and shorter term economic stimulus
Attachments: Stream 2 fed gov request Dec 16 2019.pdf
Sent: 5/21/2025 10:14:28 AM

From: Hicks, Hugh (ACOA/APECA) <hugh.hicks@canada.ca>
Sent: Wednesday, April 8, 2020 6:39 PM
To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Subject: FW: Confidential: Stream 2 support and shorter term economic stimulus

Not sure if Kalie would have seen this or not...don't need to do anything with it

Hugh

From: Thompson, Paul
Sent: Wednesday, April 08, 2020 6:28 PM
To: Hicks, Hugh (ACOA/APECA)
Cc: Plummer, Brett
Subject: FW: Confidential: Stream 2 support and shorter term economic stimulus

Hi Hugh, I trust all is well with you and your family.

Brett requested me to keep you in the loop with respect to our discussions with NRCan regarding our request to the Federal Government for stream 2 funding and the shorter term economic stimulus.

Thanks

Paul

From: Thompson, Paul
Sent: April 08, 2020 2:58 PM
To: Brady, Daniel (NRCan/RNCan) (daniel.brady@canada.ca)
Cc: Plummer, Brett

Subject: Confidential: Stream 2 support and shorter term economic stimulus

Dan, thanks for the call this afternoon. As per our discussion, here is the information we discussed.

The attached document was produced last December to support the integrated industry ask for the stream 2 funding. !

This is pretty easy to look this at in terms of the short term economic stimulus.

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

001300

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s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

001301

**Pages 1302 to / à 1305
are withheld pursuant to sections
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20(1)(a), 20(1)(b), 20(1)(c), 21(1)(a), 21(1)(b), 21(1)(c)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

Joline Arsenault

From: Crystal Hawkes
Sent: Wednesday, May 21, 2025 10:12 AM
To: Crystal Hawkes
Subject: Fw: Direction to proceed - Project over \$1M - Moltex QA 217315
Attachments: FW: Project Over 1M - Moltex QA 217315 ; FW: Project Over 1M - Moltex QA 217315 ;
FW: Project Over 1M - Moltex QA 217315 ; FW: Project Over 1M - Moltex QA 217315 ;
FW: Project Over 1M - Moltex QA 217315 ; FW: Project Over 1M - Moltex QA 217315 ;
Project Over 1M - Moltex QA 217315

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Monday, November 30, 2020 7:46 AM
To: Linda MacDonald <Linda.MacDonald@ACOA-APECA.GC.CA>
Subject: FW: Direction to proceed - Project over \$1M - Moltex QA 217315

Good to remind EDO here that the email with this concurrence should be uploaded on the project case site.

Thanks

J

From: Landry5, Christine (ACOA/APECA)
Sent: Thursday, November 19, 2020 10:42 AM
To: MacDonald, Linda (ACOA/APECA)
Cc: Hill, Jeanetta (ACOA/APECA) ; Hatt-Kilburn, Kalie (ACOA/APECA) ; Grandy, Bill (ACOA/APECA) ; Leblanc4, Joanne (ACOA/APECA) ; Cavanaugh, Nathalie (ACOA/APECA) ; Hicks, Krista (ACOA/APECA) ; Rutanga, Eddie (ACOA/APECA)
Subject: Direction to proceed - Project over \$1M - Moltex QA 217315

Importance: High

Good morning Linda,

We have received concurrence to proceed with the above noted project (Moltex QA 217315) from the VPs and the President.

Regards,

Christine

Christine Landry

Executive Assistant, New Brunswick Region

Atlantic Canada Opportunities Agency / Government of Canada

christine.landry5@canada.ca / Tel: 506-452-4127 / TTY: 1-877-456-6500

Adjointe exécutive, Bureau du Nouveau-Brunswick

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

christine.landry5@canada.ca / Tél. : 506-452-4127 / ATS : 1-877-456-6500

From: [Hicks, Krista \(ACOA/APECA\)](#)
To: [Landry5, Christine \(ACOA/APECA\)](#)
Subject: FW: Project Over 1M - Moltex QA 217315
Sent: 11/19/2020 9:07:43 AM

From: Maillet, Chuck (ACOA/APECA)
Sent: Thursday, November 19, 2020 8:15 AM
To: Estabrooks, Kent (ACOA/APECA)
Subject: RE: Project Over 1M - Moltex QA 217315

No concerns

From: Estabrooks, Kent (ACOA/APECA) <kent.estabrooks@canada.ca>
Sent: Wednesday, November 18, 2020 5:12 PM
To: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>; Nowlan, Daryell (ACOA/APECA) <daryell.nowlan@canada.ca>; Maillet, Chuck (ACOA/APECA) <chuck.maillet@canada.ca>; Skinner, Karen (ACOA/APECA) <karen.skinner@canada.ca>; Dorsey, Patrick (ACOA/APECA) <patrick.dorsey@canada.ca>; Lagace, Stephane (ACOA/APECA) <stephane.lagace@canada.ca>
Cc: Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>; Rutanga, Eddie (ACOA/APECA) <eddie.rutanga@canada.ca>; Hicks, Krista (ACOA/APECA) <krista.hicks@canada.ca>
Subject: Project Over 1M - Moltex QA 217315

Colleagues:

You will find attached a project over \$1M overview for an R&D project with Moltex relating to the fuel recycling research for their small modular reactor (SMR) design.

Any questions or comments are welcome.

Thanks,
Kent

s.20(1)(b)
s.20(1)(c)
s.20(1)(d)
s.21(1)(b)
s.21(1)(c)

From: [Hicks, Krista \(ACOA/APECA\)](#)
To: [Landry5, Christine \(ACOA/APECA\)](#)
Subject: FW: Project Over 1M - Moltex QA 217315
Sent: 11/19/2020 9:06:14 AM

From: Lagace, Stephane (ACOA/APECA)
Sent: Thursday, November 19, 2020 8:59 AM
To: Estabrooks, Kent (ACOA/APECA)
Subject: RE: Project Over 1M - Moltex QA 217315
No concerns Kent.

From: Estabrooks, Kent (ACOA/APECA) <kent.estabrooks@canada.ca>
Sent: Wednesday, November 18, 2020 5:12 PM
To: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>; Nowlan, Daryell (ACOA/APECA) <daryell.nowlan@canada.ca>; Maillet, Chuck (ACOA/APECA) <chuck.maillet@canada.ca>; Skinner, Karen (ACOA/APECA) <karen.skinner@canada.ca>; Dorsey, Patrick (ACOA/APECA) <patrick.dorsey@canada.ca>; Lagace, Stephane (ACOA/APECA) <stephane.lagace@canada.ca>
Cc: Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>; Rutanga, Eddie (ACOA/APECA) <eddie.rutanga@canada.ca>; Hicks, Krista (ACOA/APECA) <krista.hicks@canada.ca>
Subject: Project Over 1M - Moltex QA 217315

Colleagues:

You will find attached a project over \$1M overview for an R&D project with Moltex relating to the fuel recycling research for their small modular reactor (SMR) design.

Any questions or comments are welcome.
Thanks,
Kent

From: [Hicks, Krista \(ACOA/APECA\)](#)
To: [Landry5, Christine \(ACOA/APECA\)](#)
Subject: FW: Project Over 1M - Moltex QA 217315
Sent: 11/18/2020 8:14:47 PM

From: Skinner, Karen (ACOA/APECA)
Sent: Wednesday, November 18, 2020 7:02 PM
To: Dorsey, Patrick (ACOA/APECA)
Cc: Estabrooks, Kent (ACOA/APECA) ; McGuire, Francis (ACOA/APECA) ; Nowlan, Daryell (ACOA/APECA) ; Maillet, Chuck (ACOA/APECA) ; Lagace, Stephane (ACOA/APECA) ; Hatt-Kilburn, Kalie (ACOA/APECA) ; Rutanga, Eddie (ACOA/APECA) ; Hicks, Krista (ACOA/APECA)
Subject: Re: Project Over 1M - Moltex QA 217315
Good here

Sent from my iPhone

On Nov 18, 2020, at 6:41 PM, Dorsey, Patrick (ACOA/APECA) <patrick.dorsey@canada.ca> wrote:

No issues here.

From: Estabrooks, Kent (ACOA/APECA) <kent.estabrooks@canada.ca>
Sent: Wednesday, November 18, 2020 5:12 PM
To: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>; Nowlan, Daryell (ACOA/APECA) <daryell.nowlan@canada.ca>; Maillet, Chuck (ACOA/APECA) <chuck.maillet@canada.ca>; Skinner, Karen (ACOA/APECA) <karen.skinner@canada.ca>; Dorsey, Patrick (ACOA/APECA) <patrick.dorsey@canada.ca>; Lagace, Stephane (ACOA/APECA) <stephane.lagace@canada.ca>
Cc: Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>; Rutanga, Eddie (ACOA/APECA) <eddie.rutanga@canada.ca>; Hicks, Krista (ACOA/APECA) <krista.hicks@canada.ca>
Subject: Project Over 1M - Moltex QA 217315
Colleagues:
You will find attached a project over \$1M overview for an R&D project with Moltex relating to the fuel recycling research for their small modular reactor (SMR) design.

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Any questions or comments are welcome.
Thanks,
Kent

s.20(1)(b)
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s.20(1)(d)
s.21(1)(b)
s.21(1)(c)

From: [Hicks, Krista \(ACOA/APECA\)](#)
To: [Landry5, Christine \(ACOA/APECA\)](#)
Subject: FW: Project Over 1M - Moltex QA 217315
Sent: 11/18/2020 5:50:11 PM

From: McGuire, Francis (ACOA/APECA)
Sent: Wednesday, November 18, 2020 5:32 PM
To: Estabrooks, Kent (ACOA/APECA) ; Nowlan, Daryell (ACOA/APECA) ; Maillet, Chuck (ACOA/APECA) ; Skinner, Karen (ACOA/APECA) ; Dorsey, Patrick (ACOA/APECA) ; Lagace, Stephane (ACOA/APECA)
Cc: Hatt-Kilburn, Kalie (ACOA/APECA) ; Rutanga, Eddie (ACOA/APECA) ; Hicks, Krista (ACOA/APECA)
Subject: RE: Project Over 1M - Moltex QA 217315

Yup.

From: Estabrooks, Kent (ACOA/APECA) <kent.estabrooks@canada.ca>
Sent: Wednesday, November 18, 2020 5:12 PM
To: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>; Nowlan, Daryell (ACOA/APECA) <daryell.nowlan@canada.ca>; Maillet, Chuck (ACOA/APECA) <chuck.maillet@canada.ca>; Skinner, Karen (ACOA/APECA) <karen.skinner@canada.ca>; Dorsey, Patrick (ACOA/APECA) <patrick.dorsey@canada.ca>; Lagace, Stephane (ACOA/APECA) <stephane.lagace@canada.ca>
Cc: Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>; Rutanga, Eddie (ACOA/APECA) <eddie.rutanga@canada.ca>; Hicks, Krista (ACOA/APECA) <krista.hicks@canada.ca>
Subject: Project Over 1M - Moltex QA 217315

Colleagues:

You will find attached a project over \$1M overview for an R&D project with Moltex relating to the fuel recycling research for their small modular reactor (SMR) design.

Any questions or comments are welcome.

Thanks,
Kent

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<ul style="list-style-type: none">••••	
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PREPARED DATE	2020-11-09

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s.20(1)(d)

s.21(1)(b)

s.21(1)(c)

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: INFO ONLY
Sent: 5/21/2025 10:14:41 AM

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Monday, February 3, 2020 9:19 AM
To: Michel Poitras <Michel.Poitras@ACOA-APECA.GC.CA>
Subject: INFO ONLY

See response for Deputy of DNR.

From: Hill, Jeanetta (ACOA/APECA) <jeanetta.hill@canada.ca>
Sent: Saturday, February 01, 2020 5:12 PM
To: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>
Cc: Estabrooks, Kent (ACOA/APECA) <kent.estabrooks@canada.ca>; Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>; Hicks, Hugh (ACOA/APECA) <hugh.hicks@canada.ca>
Subject: RE: URGENT - FOR TODAY - List of projects for Christyne Tremblay

Hi Francis – per request – please advise if you need anything further.

Thanks

Jeanetta

Moltex

Moltex is working on a unique SMR technology. GNB has invested \$10M to support development efforts of 2 companies - ARC & Moltex. Province hopes this will lead to a demonstration SMR unit being constructed at Point Lepreau. SMRs are of particular interest to New Brunswick as a source of safe, clean and reliable baseload energy (Belledune coal-fired generating station comes offline in 2030 and the Point Lepreau nuclear facility in 2040). Moltex has invested locally and established an office in New Brunswick.

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s.20(1)(c)

s.21(1)(b)

s.21(1)(b)

Not relevant to the request

From: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>
Sent: Saturday, February 1, 2020 11:22 AM
To: Estabrooks, Kent (ACOA/APECA) <kent.estabrooks@canada.ca>;
Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>
Cc: Tremblay, Christyne (NRCAN/RNCAN)
<christyne.tremblay@canada.ca>
Subject: List of projects for Chrityne Tremblay

Can you get that to me today please.

Not relevant to the request

will be pushing to get an SMR project going

and the Province

s.20(1)(b)

s.20(1)(c)

Sent from my Bell Samsung device over Canada's largest network.

s.21(1)(b)

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Provincial priorities for MINO
Sent: 5/21/2025 10:13:21 AM

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Wednesday, September 9, 2020 11:03 AM
To: Manon Maurice <Manon.Maurice@ACOA-APECA.GC.CA>
Subject: FW: Provincial priorities for MINO

Sent from my Bell Samsung device over Canada's largest network.

----- Original message -----
From: "Hill, Jeanetta (ACOA/APECA)"
Date: 2020-09-09 11:03 a.m. (GMT-04:00)
To: "Hill, Jeanetta (ACOA/APECA)"
Subject: RE: Provincial priorities for MINO

I think I'm good here kalie is giving great input

Sent from my Bell Samsung device over Canada's largest network.

----- Original message -----
From: "Hill, Jeanetta (ACOA/APECA)"
Date: 2020-09-09 10:23 a.m. (GMT-04:00)
To: "LeBlanc, Monique (ACOA/APECA)"
Cc: "Hill, Jeanetta (ACOA/APECA)"
Subject: FW: Provincial priorities for MINO

Latest update.

Manon Maurice
Executive Assistant

Community, Inclusive Growth, and Skills

Atlantic Canada Opportunities Agency (ACOA) / Government of Canada

Manon.Maurice@canada.ca / Tel: 506-452-2467

Adjointe Exécutive

Collectivité, Croissance Inclusive et Compétences

Agence de promotion économique du Canada atlantique (APECA) / Gouvernement du Canada

Manon.Maurice@canada.ca / Tél.: 506-452-2467

From: Lacroix, Patrick (ACOA/APECA)

Sent: Wednesday, September 09, 2020 10:20 AM

To: Hatt-Kilburn, Kalie (ACOA/APECA) ; ACOA.F NBMgmtCommittee-ComiteDeGestionNB F.APECA

Cc: Fussell, Peta (ACOA/APECA) ; LandryS, Christine (ACOA/APECA)

Subject: RE: Provincial priorities for MINO

Here is a revised piece based on Kalie's suggestion. The GNB deck closing the gap does not actually identify key emerging sectors.

Thank you everyone.

Patrick

Please note: The Province of New Brunswick is currently in the final stretch of a general election, with the vote taking place on September 14, 2020. Over 63,000 voters have already voted in advance polling. The following priorities are based on the current leadership of Premier Blaine Higgs and his minority government at dissolution.

An in-depth analysis of the political parties platforms has not been performed as some parties have yet to release their full agendas, but media reports puts digital infrastructure, skills development, green economy, immigration and population growth as essential elements of an economic recovery plan.

Infrastructure funding \$14 billion federal transfer to provinces/territories Coal Phase Out Small Modular Reactors (SMRs) Airports	
---	--

Not relevant to the request

s.21(1)(b)

Not relevant to the request

- The provincial government is advocating for federal funding to assist in its efforts to develop SMR technology, of particular interest as a source of safe, clean and reliable baseload energy, as the Belledune coal-fired generating station comes offline and the Point Lepreau nuclear facility reaches its end of life in 2040. In August 2018, the provincial government created a Nuclear Research Cluster and signed MOUs with two companies developing advanced SMR technology: ARC and Moltex, investing \$10 million to foster research and development in their two designs. Recently, Premier Higgs signaled his government's intention to increase this investment in small modular reactors, by an additional \$10 million.

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Not relevant to the request

Provincial Recovery Plans

Not relevant to the request

Patrick Lacroix
Director General
Policy, Planning, Advocacy, Coordination and Communication
New Brunswick Regional Office
Atlantic Canada Opportunities Agency (ACOA) / Government of Canada
Patrick.Lacroix@canada.ca / Tel: 506-452-4831 / Mobile: 506-478-1237 / TTY: 1-877-456-6500
Patrick Lacroix
Directeur général
Politiques, planification, défense des intérêts, coordination et communication
Bureau régional du Nouveau-Brunswick
Agence de promotion économique du Canada atlantique (APECA) / Gouvernement du Canada
Patrick.Lacroix@canada.ca / Tél.: 506-452-4831 / Mobile: 506-478-1237 / ATS: 1-877-456-6500

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Sam Fotia question
Sent: 5/21/2025 10:14:06 AM

From: Hicks, Hugh (ACOA/APECA) <hugh.hicks@canada.ca>
Sent: Wednesday, April 8, 2020 3:00 PM
To: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Sam Fotia <Sam.Fotia@ACOA-APECA.GC.CA>
Cc: Christine Landry <Christine.Landry@ACOA-APECA.GC.CA>; Scholten, Daniel (ACOA/APECA) <daniel.scholten@canada.ca>
Subject: RE: Sam Fotia question

Hi Sam,
Brett P. is the nuclear lead at NBP. He said that to date the province has allocated \$5 million to MOLTEX with matching funds. There is no further monies committed at this time except level of effort resources to assist in the VDR review, perform environment assessments, and assist in First Nations collaboration. Bill Breckenridge a PNB is not aware of any additional funding that will flow through the province at this point. This is a fairly fluid file and I think the province is very much committed to seeing the SMR file move forward.

Hugh

From: El Zamer, Kafa (ACOA/APECA)
Sent: Wednesday, April 08, 2020 2:13 PM
To: Hicks, Hugh (ACOA/APECA) ; Hill, Jeanetta (ACOA/APECA) ; Fotia, Sam (ACOA/APECA)
Cc: Landry5, Christine (ACOA/APECA) ; Scholten, Daniel (ACOA/APECA)
Subject: RE: Sam Fotia question
Thanks Hugh.
Kafa El Zamer
506-451-2672

From: Hicks, Hugh (ACOA/APECA) <hugh.hicks@canada.ca>
Sent: Wednesday, April 08, 2020 12:00 PM
To: Hill, Jeanetta (ACOA/APECA) <jeanetta.hill@canada.ca>; Fotia, Sam (ACOA/APECA) <sam.fotia@canada.ca>
Cc: El Zamer, Kafa (ACOA/APECA) <kafa.elzamer@canada.ca>; Landry5, Christine (ACOA/APECA) <christine.landry5@canada.ca>; Scholten, Daniel (ACOA/APECA) <daniel.scholten@canada.ca>
Subject: RE: Sam Fotia question

I can reach out to NB Power on this one. We have talked about ACOA but they are talking about the project beyond this. The cost of the development ranges widely so to get an estimate from NB Power and the province is really tricky.
Hugh

From: Hill, Jeanetta (ACOA/APECA) <jeanetta.hill@canada.ca>
Sent: Wednesday, April 08, 2020 11:54 AM
To: Hicks, Hugh (ACOA/APECA) <hugh.hicks@canada.ca>
Cc: El Zamer, Kafa (ACOA/APECA) <kafa.elzamer@canada.ca>; Landry5, Christine (ACOA/APECA) <christine.landry5@canada.ca>; Scholten, Daniel (ACOA/APECA) <daniel.scholten@canada.ca>
Subject: Sam Fotia question

Hi Hugh and/or Kafa can either of you respond to Sam on this.

From: Fotia, Sam (ACOA/APECA) <sam.fotia@canada.ca>
Sent: Wednesday, April 8, 2020 11:31 AM
To: Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>
Subject: Question

Hi Kalie,

I hope all is well. I was asked the following question from SIF
How much money has NB Power and the province allocated to support the Moltex project

Would you have any idea if any at this point?

Regards,

Sam

Sam Fotia

Senior Advisor – Industrial Benefits (Defence) & National Programs Lead

Atlantic Canada Opportunities Agency (ACOA) – Ottawa Office

60 Queen Street, 8th Floor | Ottawa, ON | K1P 5R5

Email: sam.fotia@canada.ca

Tel: (613) 954-8059 | Cell: (613) 286-8853



Atlantic Canada
Opportunities
Agency

Agence de
promotion économique
du Canada atlantique

Canada

s.20(1)(b)

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From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: URGENT - FOR TODAY - List of projects for Christyne Tremblay
Sent: 5/21/2025 10:14:18 AM

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Monday, February 3, 2020 10:41 AM
To: Daniel Scholten (ACOA/APECA) (daniel.scholten@canada.ca) <daniel.scholten@canada.ca>
Subject: FW: URGENT - FOR TODAY - List of projects for Christyne Tremblay

From: McGuire, Francis (ACOA/APECA)
Sent: Monday, February 03, 2020 10:17 AM
To: Hicks, Hugh (ACOA/APECA) ; Hill, Jeanetta (ACOA/APECA)
Subject: RE: URGENT - FOR TODAY - List of projects for Christyne Tremblay

Many thanks

Sent from my Bell Samsung device over Canada's largest network.

----- Original message -----

From: "Hicks, Hugh (ACOA/APECA)" <hugh.hicks@canada.ca>
Date: 2020-02-03 9:57 a.m. (GMT-04:00)
To: "Hill, Jeanetta (ACOA/APECA)" <jeanetta.hill@canada.ca>, "McGuire, Francis (ACOA/APECA)" <francis.mcguire@canada.ca>
Subject: RE: URGENT - FOR TODAY - List of projects for Christyne Tremblay

Hugh

From: Hill, Jeanetta (ACOA/APECA) <jeanetta.hill@canada.ca>
Sent: Monday, February 03, 2020 9:39 AM
To: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>; Hicks, Hugh (ACOA/APECA) <hugh.hicks@canada.ca>
Subject: RE: URGENT - FOR TODAY - List of projects for Christyne Tremblay

Credit to Mr. Hugh Hicks!!

From: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>
Sent: Monday, February 03, 2020 9:38 AM
To: Hill, Jeanetta (ACOA/APECA) <jeanetta.hill@canada.ca>
Subject: RE: URGENT - FOR TODAY - List of projects for Christyne Tremblay

s.21(1)(b)

Not relevant to the request

001322

From: Hill, Jeanetta (ACOA/APECA) <jeanetta.hill@canada.ca>
Sent: Saturday, February 01, 2020 5:12 PM
To: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>
Cc: Estabrooks, Kent (ACOA/APECA) <kent.estabrooks@canada.ca>; Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>; Hicks, Hugh (ACOA/APECA) <hugh.hicks@canada.ca>
Subject: RE: URGENT - FOR TODAY - List of projects for Christyne Tremblay

Hi Francis – per request – please advise if you need anything further.

Thanks

Jeanetta

Moltex

Moltex is working on a unique SMR technology. GNB has invested \$10M to support development efforts of 2 companies - ARC & Moltex. Province hopes this will lead to

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Not relevant to the request

a demonstration SMR unit being constructed at Point Lepreau. SMRs are of particular interest to New Brunswick as a source of safe, clean and reliable baseload energy (Belledune coal-fired generating station comes offline in 2030 and the Point Lepreau nuclear facility in 2040). Moltex has invested locally and established an office in New Brunswick.

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From: McGuire, Francis (ACOA/APECA) <francis.mcguire@canada.ca>
Sent: Saturday, February 1, 2020 11:22 AM
To: Estabrooks, Kent (ACOA/APECA) <kent.estabrooks@canada.ca>;
Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>
Cc: Tremblay, Christyne (NRCAN/RNCAN)
<christyne.tremblay@canada.ca>
Subject: List of projects for Chrityne Tremblay

Can you get that to me today please. '

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

Not relevant to the request

001325

and the Province
will be pushing to get an SMR project going
Sent from my Bell Samsung device over Canada's largest network.

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: .
Sent: 5/21/2025 10:30:32 AM

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Wednesday, September 21, 2022 9:35 AM
To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Subject:

Hi Kalie,

I met with Sam, Siddhartha and Lynn Adams last week

Highlights below:

- For context, Lynn Adams provided some insight into current thinking within NRCan and ECCC:

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- NB, who will say that their top priority is SMR.

-

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Next one up is

We think there's a definite advocacy role for the Agency, with the objective of determining if there's a realistic chance of funding becoming available (and on what timeline), and raising awareness within NRCan and ECCC on the impacts this situation is having on "made in Canada" technologies.

To that end, I can work with the team in Ottawa and the ACE office to circle back with NRCan in order to see what the roadmap is going to look like –

I'd also like to chat with you about options for Francis to have bilats with the deputies at NRCan and ECCC, to ensure they understand the impacts this situation is having on Canadian companies in this space.

Happy to discuss further,

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626 / Cell: 506-227-9520 / TTY:1-877-456-6500

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s.21(1)(b)

s.21(1)(c)

Directeur, Innovation, commerce et croissance des entreprises
Agence de promotion économique du Canada atlantique / Gouvernement du Canada
Josh.Jenkins@canada.ca / Tél: 506-851-3626 / Cell: 506-227-9520 / ATS:1-877-456-6500

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: ARC and Moltex Update
Attachments: ARC_Moltex_Backgrounder (July 2023).docx
Sent: 5/21/2025 10:40:59 AM

From: Nicholas Charney <Nicholas.Charney@acoa-apeca.gc.ca>
Sent: Monday, July 10, 2023 3:32 PM
To: Rima Thomeh <rima.thomeh@ACOIA-APECA.GC.CA>
Cc: Christopher Haley <christopher.haley@ACOIA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOIA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOIA-APECA.GC.CA>
Subject: Re: ARC and Moltex Update

Thanks! I'll share it with MINO :)

Sent via mobile.

On Jul 10, 2023, at 2:21 PM, Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca> wrote:

Hi Nick and Chris,
As requested during a previous MINO call, please find attached our update regarding ARC and Moltex.
We are available if you have any questions.

Thank you,

Rima

Rima Thomeh (she/her/elle)

Strategic Advisor to the Director General of Operations | New Brunswick Regional Office
Atlantic Canada Opportunities Agency (ACOA) | Government of Canada
Rima.Thomeh@acoa-apeca.gc.ca | Tel: 506-260-0740 | TTY: 1-877-456-6500
Conseillère stratégique au directrice générale des opérations | Bureau régional du Nouveau-Brunswick
Agence de promotion économique du Canada atlantique (APECA) / Gouvernement du Canada
Rima.Thomeh@acoa-apeca.gc.ca | Tél. (506) 260-0740 | ATS. 1-877-456-6500



BACKGROUND

Security classification N/A
Reference No. DT
Prepared by
Date submitted July 10, 2023

Subject: ARC and Motlex Update

Purpose

- The purpose of this backgrounder is to provide a status update on work related to ARC and Moltex as requested.

Background

- ARC is a clean energy technology company developing the ARC-100, an advanced small modular reactor (aSMR) offering inherently safe, reliable, and economical carbon free power. The ARC-100 has been selected by New Brunswick Power for implementation on their Point Lepreau site with completion by the end of this decade. ARC has offices in Saint John, New Brunswick and Washington, DC.
 - In 2018, ARC committed \$5M towards the establishment of an Advanced SMR Research Cluster in New Brunswick, which received \$10M from the New Brunswick Energy Solutions Corporation, a provincial Crown corporation.
 - ARC has secured \$20M in financial assistance from the Province of New Brunswick in February 2021,
 - In November 2022, Belledune Port Authority announced it is working with Cross River Infrastructure Partners to pursue the use of ARC's technology as part of a future expansion at the northern New Brunswick port, realizing their Green Energy Hub vision, due to the ARC-100's ability to produce both clean power and high heat.
- Moltex Energy Limited is a privately held nuclear power development company established in 2014 and headquartered in the UK. Moltex Canada Energy is a Canadian subsidiary of Moltex with headquarters in Saint John, New Brunswick.
 - In 2018, Moltex committed \$5M towards the establishment of an Advanced SMR Research Cluster in New Brunswick, which received \$10M from the New Brunswick Energy Solutions Corporation, a provincial Crown corporation.

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Current Status

ARC

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-
- The Canadian Nuclear Isotope Council (CNIC) announced a partnership with ARC in December 2022. ARC joins 76+ organizations in Canada's isotope community that work together to advance Canada's role in the global supply chain for nuclear isotopes. ARC is the first advanced small modular reactor (aSMR) company to join the CNIC.
- Progress is continuing steadily regarding site preparation at Point Lepreau Nuclear Generating Site (PLNGS) and implementation of the first aSMR (ARC-100) in New Brunswick is expected early in the 2030s.
- The CIB's largest-ever investment in clean technologies occurred in October 2022, with the announcement of \$970M in support of OPG's development of GE Hitachi's GE Hitachi BWRX-300, a generation 3 SMR technology.

- On June 30th, 2023, NB Power, in partnership with ARC Clean Technology Canada, Inc. (ARC), announced the submission of an Environmental Impact Assessment registration document to the Department of Environment and Local Government (DELG) and a License to Prepare Site Application to the Canadian Nuclear Safety Commission (CNSC) on the advanced Small Modular Reactor (SMR) project. These submissions mark an important milestone in the plans to construct and operate an advanced small modular reactor on the existing Point Lepreau Nuclear Generating Station (PLNGS) site.

Moltex:

- In March 2021, Moltex announced the receipt of financial support through SIF of \$47.5M and complimentary support of \$3M from ACOA.
- In early 2023, Moltex's project with ACOA was completed, demonstrating the technical viability of the core chemical extraction process to be used for recycling waste nuclear fuel (WATSS).
-
- On May 26, 2023, ACOA received a project proposal from Moltex in the amount of \$3M to fund the next stage (Phase 2) of waste fuel recycling technology development. The next phases of Moltex's technology development can be summarized as follows:

○

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

○

○

For context, the concept of a federal backstop on cost overruns has been proposed by stakeholders in the nuclear industry (e.g., the Feasibility Report on SMR Development in Canada, prepared by Ontario Power Generation (OPG), Bruce Power, NB Power and SaskPower for the governments of Ontario, New Brunswick and Saskatchewan also articulates this same need),

Position of ACOA

- The Agency expects to make a recommendation regarding the current application for funding in the fall of 2023.

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Backgrounder Requested: SMR Implications for NB
Attachments: Backgrounder - SMR Implications for NB - DT613093.docx
Sent: 5/21/2025 10:31:29 AM

From: Angele Bastarache <Angele.Bastarache@ACOA-APECA.GC.CA>
Sent: Friday, October 21, 2022 3:59 PM
To: Christopher Haley <christopher.haley@ACOA-APECA.GC.CA>; Marc LeBlanc <Marc.LeBlanc@ACOA-APECA.GC.CA>; Rose Croteau <Rose.Croteau@ACOA-APECA.GC.CA>
Cc: Nicholas Charney <Nicholas.Charney@acoa-apeca.gc.ca>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Lynn Adams <Lynn.Adams@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Tina Steele <Tina.Steele@ACOA-APECA.GC.CA>
Subject: RE: Backgrounder Requested: SMR Implications for NB

Good afternoon,

Attached is the requested Backgrounder. Approved by Acting President (VP FCS) on behalf of Francis on October 21, 2022.

Merci,

Angèle Bastarache

Administrative Assistant to the President, President's Office
(She/Her/Elle)

Atlantic Canada Opportunities Agency / Government of Canada
angele.bastarache@acoa-apeca.ca / Telephone : 506-961-3299

Adjointe administrative au président, Cabinet du président
(Elle/She/Her)

Agence de promotion économique du Canada atlantique / Gouvernement du Canada
angele.bastarache@acoa-apeca.gc.ca / Téléphone : 506-961-3299



Government of Canada
Gouvernement du Canada

From: Christopher Haley <Christopher.Haley@acoa-apeca.gc.ca>
Sent: Friday, October 21, 2022 12:18 PM
To: Marc LeBlanc <Marc.LeBlanc@ACOA-APECA.GC.CA>; Angele Bastarache <Angele.Bastarache@ACOA-APECA.GC.CA>; Rose Croteau <Rose.Croteau@ACOA-APECA.GC.CA>
Cc: Nicholas Charney <Nicholas.Charney@acoa-apeca.gc.ca>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Lynn Adams <Lynn.Adams@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>
Subject: RE: Backgrounder Requested: SMR Implications for NB
Importance: High

Hi folks,

Received some clarification from MINO – they are looking for this info ASAP, so we have adjusted the request. Please see below:

- Please have NB, with input from the Energy Office, **develop informal bullets (6-8 max)** that outline the following:

- Implications that these announcements may have for NB (ex. energy, economy, decarbonization, etc...)
- Note: specific focus on the announcement – this has peaked MINO's interest especially.

Please send these bullets to DLO (no need for DARRT).

Deadline: ASAP (ideally before COB today)

Apologies again for an even shorter timeline. Hopefully the adjustment of this request is doable in this time period.

Thanks,

Chris

From: Christopher Haley

Sent: Friday, October 21, 2022 9:29 AM

To: Marc LeBlanc <Marc.LeBlanc@ACOA-APECA.GC.CA>; Angele Bastarache <Angele.Bastarache@ACOA-APECA.GC.CA>; Rose Croteau <Rose.Croteau@ACOA-APECA.GC.CA>

Cc: Nicholas Charney <Nicholas.Charney@acoa-apeca.gc.ca>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Lynn Adams <Lynn.Adams@ACOA-APECA.GC.CA>

Subject: Backgrounder Requested: SMR Implications for NB

Importance: High

Good morning Marc, Angele, and Rose,

MINO has requested a short backgrounder related to an upcoming SMR in NB. Please find the request from MINO attached.

Please have NB lead on the development of this backgrounder, with input from the Energy Office. Please ensure the backgrounder includes the following elements:

- Outline any intel that ACOA may have on these upcoming announcements (CIB with SMR, expansion of role). Intel may only be found from the attached email – this is fine.
- Background and historical context of SMRs in NB
- Implications that these announcements may have for NB (ex. energy, economy, decarbonization, etc...)

Deadline: Tuesday, October 25 @ 9AM EST

Apologies for the short turnaround. Please let me know if you have any questions.

Thanks!

Chris

Chris Haley (he/him/il)

Senior Policy Analyst | Analyste principal des politiques

Departmental Liaison Office | Bureau de liaison ministérielle

Atlantic Canada Opportunities Agency (ACOA) | Agence de promotion économique du Canada atlantique (APECA)

Christopher.Haley@acoa-apeca.gc.ca / Tel: 613-295-7523

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Coal "Just Transition" Report - Office of the Auditor General's Report
Sent: 5/21/2025 10:44:12 AM

From: Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>
Sent: Thursday, October 12, 2023 10:45 AM
To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Subject: FYI: Coal "Just Transition" Report - Office of the Auditor General's Report

Hi Kalie,

In follow-up to yesterday's MINO prep call, I obtained the OAG's coal "Just Transition" report (2022) from our Policy team.

They also included a backgrounder on Coal Transition, which you may have seen before, and the input that ACOA NB and NS provided to the OAG that fed into their report.

Please let me know if you require any additional information.

Thank you,

Rima

Rima Thomeh (she/her/elle)

Strategic Advisor to the Director General of Operations | New Brunswick Regional Office

Atlantic Canada Opportunities Agency (ACOA) | Government of Canada

Rima.Thomeh@acoa-apeca.gc.ca | Tel: 506-260-0740 | TTY: 1-877-456-6500

Conseillère stratégique au directrice générale des opérations | Bureau régional du Nouveau-Brunswick

Agence de promotion économique du Canada atlantique (APECA) / Gouvernement du Canada

Rima.Thomeh@acoa-apeca.gc.ca | Tél. (506) 260-0740 | ATS. 1-877-456-6500



BACKGROUND

Security classification N/A
Reference No. DT
Prepared by Peta Fussell with input from François Boulay
Date submitted 18/05/2023

Subject: Coal Transition in New Brunswick

Purpose

- The purpose of this backgrounder is to provide information on ACOA's role in New Brunswick regarding the federal government's commitment to phase out coal by 2030.

Background

Context

- In 2016, as part of the Government of Canada's commitment to achieve net-zero GHGs (greenhouse gas emissions) by 2050 and meet its 2015 Paris Agreement commitments, it announced that the use of coal in electricity-generating facilities would be phased out by 2030.
- Following that announcement, a Task Force for the Just Transition for Canadian Coal Power Workers and Communities was established. They conducted consultations across the four affected provinces, including in New Brunswick in June 2018. They met with community and business stakeholders, the provincial government, municipalities, employers and labour union representatives in northern New Brunswick. ACOA NB presented to the Task Force at those consultations.
- The Task Force produced two reports with ten recommendations. Three of those recommendations fell within ACOA's mandate.
 - Recommendation 6 - Identify, prioritize, and fund local infrastructure projects in affected communities.
 - Recommendation 7 - Establish a dedicated, comprehensive, inclusive, and flexible just transition funding program for affected communities.
 - Recommendation 8 - Meet directly with affected communities to learn about their local priorities, and to connect them with federal programs that could support their goals.

- The result was two Treasury Board submissions which resulted in funding to be delivered by the Regional Development Agencies in all four provinces through two programs:
 - The **Canada Coal Transition Initiative (CCTI)** – Budget 2018 announced an initial \$35M over 5 years to Western Diversification (WD) (\$25M) and ACOA (\$10M) to support skills development and economic diversification activities to help workers and communities adapt to Canada's transition to a low-carbon economy.
 - The **Canada Coal Transition Initiative – Infrastructure Fund (CCTI-IF)** – Budget 2019 announced \$150M over five years to WD (\$105M) and ACOA (\$45M) to deliver funding to address the infrastructure needs of communities affected by the phase out of coal-fired electricity.

New Brunswick Situation

- In New Brunswick, the Belledune Generating Station is the only facility still burning coal to generate electricity. It provides an important baseload amount of power for the province – 467 Megawatts which accounts for 15% of the province's electricity needs and approximately 30% of GHGs. It is an important employer– 125 FTEs of relatively high-paying jobs – in a region that has seen many big industrial employers close over the last decade.
- Other provinces affected are Nova Scotia, with four coal-fueled generating stations, as well as Saskatchewan and Alberta.

Funding to ACOA

- ACOA's coal transition allocation in New Brunswick is:
 - CCTI – \$3.15M over five years that ended on March 31, 2023.
 - CCTI-IF – \$14.25M over five years ending on March 31, 2025.
- As there are currently no job losses as a result of the planned phase-out of coal in New Brunswick, ACOA's efforts to-date have focused on funding projects that support economic diversification and job creation in the region surrounding Belledune in order to mitigate any future impacts of the phase-out.
- Projects funded with results to-date are listed in Annex A.

Provincial Government Position and SMRs

- The provincial government has been looking at alternative ways of fueling the Belledune Generating Station instead of decommissioning it entirely. It was originally built to operate until 2040.
- The provincial government sought an equivalency agreement with the federal government to allow it to run the Belledune generating station with coal past 2030 but it was denied.

- An equivalency agreement would have allowed the province to continue to burn coal and emit GHGs if it found ways to reduce GHGs in other parts of the province.
- In order to replace the base load electricity generation capacity provided by Belledune and, the government is investing in the development of Small Modular Reactor (SMR) technologies.
- SMRs are a non-emitting and efficient way to generate energy in the form of industrial heat and electricity. They can produce up to 300 megawatts of electricity compared to the 600-1500 MW produced by traditional reactors, are manufactured in factories and then transported to the different sites.
- The provincial government has provided funding support to two companies who located to New Brunswick to advance SMR technology - Moltex and ARC. Funding to-date is:
 - \$5 million to each company announced in 2018.
 - \$20 million to ARC announced in 2021.
- The federal government has also supported this effort through investments by ACOA and Innovation, Science and Economic Development Canada (ISED) which is in line with the Government of Canada's SMR Action Plan.
- ACOA has supported SMR technology development given the importance of increasing non-emitting power generating sources to support the NB economy:
 - **By funding projects:** Moltex (\$3 million); NB Power (\$5 million); the Centre of Nuclear Energy Development at the University of New Brunswick (\$2.48 million); North Shore Micmac District Council (\$13,750); Organization of Canadian Nuclear Industries (\$786,250); and the Atlantica Centre for Energy (\$38,225). Details can be found in Annex A.
 - **Through advocacy:** ACOA has also undertaken considerable advocacy efforts with federal partners such as NRCAN and ISED on the importance of the development of SMR technology and funding support for these efforts.
- Moltex was successful in securing \$47.5 million through ISED's Strategic Innovation Fund. ACOA played a role in advocating for the merits of this project.

Port of Belledune

- The Port of Belledune ("the Port") is adjacent to the Belledune generating facility and imports the coal currently being used to fuel electricity generation at that facility.

- The phase-out of coal will have a considerable impact on the Port as it accounts for its most significant source of revenue. The Port is an anchor asset for the region and an important economic driver for the province as it enables access to Canadian and international markets for New Brunswick companies located across the region.
- That is why ACOA provided \$1.7 million through CCTI to the Port to produce a Master Development Plan to enable the Port to prepare for the coal phase-out.
- The result is a two-phase thirty-year plan to expand the scope of the Port's services and client base, with the goal of achieving a more diversified clientele, handling greater volumes of cargo and positioning itself as a centre for clean energy development, recently named the "Green Energy Hub."
- The purpose of the Green Energy Hub is to support renewable energy, clean industry and green manufacturing, which will create new economic opportunities and sustainable jobs in the region.
 - For example, the Port is partnering with Cross River Infrastructure Partners to develop a green hydrogen facility which could be operational by 2027, ending the outcome of feasibility studies, environmental assessments, due diligence and permitting,
- The Port has also received additional support from the Government of Canada through a \$12.5 million contribution from the National Trade Corridors Fund for a dry bulk conveyor loop to create a fixed loop to link two terminals to increase the quantities of bulk cargo handled at the Port of Belledune. The provincial government is contributing \$4 million towards the project.
- Importantly, the Port has been engaging with Indigenous groups on opportunities to partner with them on clean energy projects including Pabineau First Nation and Ugi'ganjig (Eel River Bar First Nation).

Position of ACOA

- Projects funded through CCTI and CCTI-IF are playing an important role in preparing communities for the eventual phase-out of coal by creating new economic opportunities that will support job creation in the Belledune area and northern New Brunswick.
- ACOA will continue to seek out strategic projects with the remaining CCTI-IF funding.
- ACOA will also continue to advocate for additional federal and provincial funding to support the Port of Belledune's initiative and further economic diversification in the region.

Annex A – Canadian Coal Transition Initiative – Early Results

CCTI Funded Projects

1 - Belledune Port Authority (#213502)

Extensive series of studies to produce a Master Development Plan – in working capital from the Port of Belledune on projects costs of with a \$1.7M contribution from ACOA. The Plan was launched on October 12, 2022, and ACOA is assisting with implementation of some elements of the plan via an amendment as some funds remained. Many industrial opportunities are emerging as a result including the planned creation of a Green Hub.

The project is now completed – awaiting final claim certificate and final report.

Early results

The Port of Belledune Authority’s (“the Port”) financial controller () has provided the following information:

- Prior to the Glencore Smelter closure in Dec 2019, the Port’s revenues were 50% from NB Power, 12% from Glencore and 23% from Quebec Stevedoring International (QSL), and 15% from Tank Farm.
- After the Glencore smelter closure, the Port’s revenues are 52% from NB Power, 35% from QSL and 13% from Tank Farm.
- The growth of wood pellet shipments began increasing with the closure of the Smelter in Dec 2019 and over the span of 2020 to 2022, QSL-generated revenues have compensated for the revenues losses from the Smelter closure.

With respect to the Master Development Plan, the Port is proud of four key achievements:

1. A plan leading to the establishment of a Green Hub.
2. A road map outlining the steps needed for Port and the region to ensure the future availability of a green energy supply comprising a combination of wind, solar and biomass co-generation to attract industries to the Port of Belledune as well as the Provincial Energy policy changes necessary to meet the needs of the Green Hub.
3. A clear pathway to establish a subsidiary company able to undertake commercial opportunities under various high-level commercial structures and governance options to develop a Green Hub industrial park.
4. A Request for Expressions of Interest (RFI) document to help secure a long-term operator of the existing liquid bulk infrastructure at the Port of Belledune for the import, export, storage, and potential distribution of liquid bulk cargoes via the Port’s Terminal 2.

Early results:

Not relevant to the request

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)

s.20(1)(b)
s.20(1)(c)
s.20(1)(d)
s.21(1)(b)

Not relevant to the request

s.20(1)(b) Not relevant to the request

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Correspondence on SMR Impact Assessment
Attachments: APPENDIX A - ACOA NB - SMR Related Investments.docx
Sent: 5/21/2025 10:29:48 AM

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Friday, July 8, 2022 1:02 PM
To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Laura DeLong <Laura.DeLong@ACOA-APECA.GC.CA>
Subject: RE: Correspondence on SMR Impact Assessment

Hi Jeanetta,

Here are a few bullets for you, and the full list of projects attached:

- ACOA is supporting the development of an SMR technology cluster in New Brunswick, in line with the Government of Canada's SMR Action Plan lead by the Department of Natural Resources and the provincial government's efforts to advance the industry.
- NB Power and other stakeholders are in active consultations with First Nations communities to discuss the potential and opportunities of this SMR technology cluster. A portion of the SMR related projects funded by ACOA will assist the utility in conducting those consultations
- As with all nuclear related initiatives in Canada, there exists an extensive regulatory framework under which these initiatives must undergo – including the Environmental Impact Assessment process – which is lead by the Canadian Nuclear Safety Commission and Environment and Climate Change Canada.

Please let me know if you have any questions – thanks,
Josh

From: Jeanetta Hill
Sent: Wednesday, July 6, 2022 5:53 PM
To: Josh Jenkins
Cc: Kafa El Zamer
Subject: FW: Correspondence on SMR Impact Assessment

Hi Josh

There are some concerns being raised by public based on the perception that there is not going to be a formal Impact Assessment around a potential SMR demonstration site at Point Lepreau.

While we no funds in the development of the site – can I have a few points on our role with SMR and the NB Power project that is currently in disbursement.

I suggest by **Friday noon** if that is reasonable. MINO office is receiving a number of letters in this regard and would like to have some briefing lines from us.

We may already have an SMR briefing = feel free to check with policy on a ready product that may just need some tweaking.

Thanks

J

From: Martine Cantin <Martine.Cantin@ACOA-APECA.GC.CA>

Sent: Wednesday, July 6, 2022 4:56 PM

To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>

Cc: Christopher Haley <Christopher.Haley@acoa-apeca.gc.ca>

Subject: RE: Correspondence on SMR Impact Assessment

Hi Jeanetta,

I just talked to MINO and this will probably be responded by Min Guilbeault. However, we are wondering if you could prepare a few lines in an email or a backgrounder – whichever is easier – on:

- Our involvement in that field
- Any intel you may have on the issue raised in the letter

Do not hesitate if you have any questions.

Thank you!

m.

De : Martine Cantin

Envoyé : 6 juillet 2022 16:01

À : Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>

Objet : TR: Correspondence on SMR Impact Assessment

Hi Jeanetta, here is a sample letter.

APPENDIX A

ACOA investments in the SMR technology cluster in New Brunswick

\$3 million – Moltex (conditionally repayable)

- This project will help Moltex demonstrate the commercial viability of its proprietary technology to convert used CANDU fuel into recycled fuel for SMRs. This technology will reduce the cost, volume and toxicity of spent nuclear waste while producing clean electricity at low cost.

\$5 million – NB Power (non-repayable)

- This project will enable NB Power to prepare for the deployment and demonstration of SMR technologies at its approved nuclear site. The project will focus on foundational activities such as establishing baseline site designs and addressing environmental and regulatory requirements. NB Power will also be engaging with First Nations and the public as part of this project.

\$561,750 – University of New Brunswick's Centre for Nuclear Energy Research (CNER) (non-repayable)

- This project involves expanding CNER's capacity to support SMR technology cluster development in New Brunswick. The activities include hiring an Innovation Officer and engaging a consultant to develop a quality management system that would meet industry certification standards. This investment is meant to boost the centre's capacity to partner with private industry in research and development.

\$13,750 – North Shore Micmac District Council (non-repayable)

- This project supports strategic planning for Indigenous involvement in SMR development in New Brunswick.

\$786,250 – Organization of Canadian Nuclear Industries (non-repayable)

- This project supports SMEs looking to enter, or expand, their role in the SMR Supply Chain in New Brunswick, through work with OCNI to map out their current abilities, nuclear certifications, and develop partnerships within the nuclear industry.

.../2

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)

\$38,225 – Atlantica Centre for Energy Inc. (non-repayable)

- This project was to host an SMR Supply Chain event in New Brunswick, for SMEs interested in entering, or expanding, their role in the SMR Supply Chain

**Pages 1348 to / à 1352
are not relevant
sont non pertinentes**

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: FOR ACTION: Update on ARC and Moltex - MINO request
Sent: 5/21/2025 10:40:39 AM

From: Jeanetta Hill
Sent: Monday, July 10, 2023 10:57 AM
To: Rima Thomeh <rima.thomeh@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>
Subject: RE: FOR ACTION: Update on ARC and Moltex - MINO request

If you can put it the final version in a template document in word, save in our regional ops section and send the document to DLO that will be great thank you!

Jh

From: Rima Thomeh
Sent: Monday, July 10, 2023 10:41 AM
To: Kafa El Zamer ; Jeanetta Hill
Subject: RE: FOR ACTION: Update on ARC and Moltex - MINO request

Hi there,

Just following up...Was the update sent? Let me know if you need anything on my end.

Rima

From: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>
Sent: Thursday, July 6, 2023 4:42 PM
To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Cc: Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>
Subject: RE: FOR ACTION: Update on ARC and Moltex - MINO request
Kalie already reviewed it and gave her comments, which Josh addressed so I don't see a need for her to review again. We can send it up via email to DLO.

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Thursday, July 6, 2023 2:36 PM
To: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>
Cc: Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>
Subject: RE: FOR ACTION: Update on ARC and Moltex - MINO request

If this is approved by Kalie – I can send along

From: Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>
Sent: Thursday, July 6, 2023 2:29 PM
To: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Subject: FW: FOR ACTION: Update on ARC and Moltex - MINO request

Hi there,

Here is the most recent version of the update (as of yesterday) – it includes Josh's responses to Kalie's comments. I removed the highlighting. There was no email request from MINO, they asked for it during the call on June 21st.

Will one of you send to MLO? Or maybe it was done already?

ARC:

- In 2018, ARC committed \$5M towards the establishment of an Advanced SMR Research Cluster in New Brunswick, which received \$10M from the New Brunswick Energy Solutions Corporation, a provincial Crown corporation.
- ARC has secured \$20M in financial assistance from the Province of New Brunswick in February 2021,
-
-
- In November 2022, Belledune Port Authority announced it is working with Cross River Infrastructure Partners to pursue the use of ARC's technology as part of a future expansion at the northern New Brunswick port, realizing their Green Energy Hub vision, due to the ARC-100's ability to produce both clean power and high heat.
- The Canadian Nuclear Isotope Council (CNIC) announced a partnership with ARC in December 2022. ARC joins 76+ organizations in Canada's isotope community that work together to advance Canada's role in the global supply chain for nuclear isotopes. ARC is the first advanced small modular reactor (aSMR) company to join the CNIC.
- Progress is continuing steadily regarding site preparation at Point Lepreau Nuclear Generating Site (PLNGS) and implementation of the first aSMR (ARC-100) in New Brunswick is expected early in the 2030s.
- The CIB's largest ever investment in clean technologies occurred in October, 2022, with the announcement of \$970M in support of OPG's development of GE Hitachi's [GE Hitachi BWRX-300](#), a generation 3 SMR technology.
- On June 30th, 2023, NB Power, in partnership with ARC Clean Technology Canada, Inc. (ARC), announced the submission of an Environmental Impact Assessment registration document to the Department of Environment and Local Government (DELG) and a License to Prepare Site Application to the Canadian Nuclear Safety Commission (CNSC) on the advanced Small Modular Reactor (SMR) project. These submissions mark an important milestone in the plans to construct and operate an advanced small modular reactor on the site of the existing Point Lepreau Nuclear Generating Station (PLNGS).

Moltex:

- In 2018, Moltex committed \$5M towards the establishment of an Advanced SMR Research Cluster in New Brunswick, which received \$10M from the New Brunswick Energy Solutions Corporation, a provincial Crown corporation.
- In March 2021, Moltex announced the receipt of financial support through SIF of \$47.5M and complimentary support of \$3M from ACOA.
- In early 2023, Moltex's project with ACOA was completed, demonstrating the technical viability of the core chemical extraction process to be used for recycling waste nuclear fuel (WATSS).

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

-
- On May 26, 2023, ACOA received a project proposal from Moltex in the amount of \$3M to fund the next stage (Phase 2) of waste fuel recycling technology development. The next phases of Moltex’s technology development can be summarized as follows:

-

-

-

For context, the concept of a federal backstop on cost overruns has been proposed by stakeholders in the nuclear industry (e.g., the Feasibility Report on SMR Development in Canada, prepared by Ontario Power Generation (OPG), Bruce Power, NB Power and SaskPower for the governments of Ontario, New Brunswick and Saskatchewan also articulates this same need),

- The Agency expects to make a recommendation regarding the current application for funding in the fall of 2023.

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21(1)(c)

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: For review and signature.
Attachments: RE: FW: Letter From Minister Holland;220605 - UNB CNER Phase II - PAF (002).pdf;
Sent: 5/21/2025 10:30:08 AM

From: Jeanetta Hill
Sent: Tuesday, July 19, 2022 2:55 PM
To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Cc: Josh Jenkins <Josh.Jenkins@ACOA-APECA.GC.CA>; Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>; Krista Hicks <Krista.Hicks@ACOA-APECA.GC.CA>
Subject: For review and signature.

Hi Kalie

Here is the CNER PAF for review and signature prior to uploading to direction list. I've attached the email which reflects the most recent edits from Josh's team.

We will add details of this one to the MINO prep call as well.

Thanks

Jeanetta

From: Josh Jenkins
Sent: Tuesday, July 19, 2022 2:09 PM
To: Kalie Hatt-Kilburn
Cc: Jeanetta Hill ; Heath Johnson ; Luke Bulmer
Subject: CNER question re: tech vendors

Hi Kalie,

Have checked with the team on your questions re: ARC and Moltex's perspective on CNER's expansion proposal.

We got input from Moltex (as they're an existing client) and are assuming similarities with ARC based on similar TRLs and associated research needs.

Moltex is satisfied with CNER's capabilities and supportive of the phase 2 expansion, as it will mitigate previous gaps in research capacity which led to them having to conduct research in other jurisdictions.

Would also note that NB Power has a seat on CNER's board, and their interests are reflected in CNER's 5-year strategic plan (from which this proposal stems).

Hope this is helpful – please let me know if you have any further questions or concerns.

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626 / Cell: 506-227-9520 / TTY:1-877-456-6500

Directeur, Innovation, commerce et croissance des entreprises

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

Josh.Jenkins@canada.ca / Tél: 506-851-3626 / Cell: 506-227-9520 / ATS:1-877-456-6500

From: [Jeanetta Hill](mailto:Jeanetta.Hill@acoa-apeca.gc.ca)
To: [Jeanetta Hill](mailto:Jeanetta.Hill@ACO-APECA.GC.CA)
Subject: RE: FW: Letter From Minister Holland
Sent: 7/19/2022 2:50:32 PM

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Tuesday, July 19, 2022 9:17 AM
To: Jeanetta Hill <Jeanetta.Hill@ACO-APECA.GC.CA>
Cc: Nathalie Cavanaugh <Nathalie.Cavanaugh@ACO-APECA.GC.CA>; Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Subject: FW: FW: Letter From Minister Holland

Jeanetta – see attached CNER PAF, revised to reflect your input from yesterday

Josh

From: Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>
Sent: Tuesday, July 19, 2022 9:00 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Subject: RE: FW: Letter From Minister Holland

PAF signed and attached.

Heath Johnson, MBA
(he/him/il)

Manager | Innovation, Trade & Business Growth
Atlantic Canada Opportunities Agency (ACOA) | Government of Canada
Heath.Johnson@acoa-apeca.gc.ca | +1 506 378-3495 | TTY 711

Gestionnaire | Innovation, commerce et croissance des entreprises
Agence de promotion économique du Canada atlantique (APECA) | Gouvernement du Canada
Heath.Johnson@acoa-apeca.gc.ca | +1 506 378-3495 | ATS 711

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Monday, July 18, 2022 16:56
To: Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>
Cc: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Subject: RE: FW: Letter From Minister Holland

Thanks

Sent from my Bell Samsung device over Canada's largest network.

----- Original message -----

From: Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>
Date: 2022-07-18 4:35 p.m. (GMT-04:00)
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Subject: FW: FW: Letter From Minister Holland

Hey Josh,

Luke has gone and made the required changes to the PAF. I've reviewed the changes and I think everything is good to go.

One of the downsides to CAPRI is that if you update the Mission/Mandate of the organization, it doesn't appear right away: Luke tells me that it will be run in a process overnight and will be updated in the PAF tomorrow. I haven't attached the revised document because it's pulling the old text instead of the new stuff.

In the short term, below Luke has answered the questions that were brought up. Some of these are not included anywhere in the PAF so the answers are below for your consideration. Tomorrow morning, once the text for the Mission/Mandate section has gone through CAPRI, we'll get the signed, revised PAF to you.

Thanks,
Heath

Heath Johnson, MBA
(he/him/il)

Manager | Innovation, Trade & Business Growth
Atlantic Canada Opportunities Agency (ACOA) | Government of Canada
Heath.Johnson@acoa-apeca.gc.ca | +1 506 378-3495 | TTY 711

Gestionnaire | Innovation, commerce et croissance des entreprises
Agence de promotion économique du Canada atlantique (APECA) | Gouvernement du Canada
Heath.Johnson@acoa-apeca.gc.ca | +1 506 378-3495 | ATS 711

From: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Sent: Monday, July 18, 2022 15:23
To: Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>
Subject: RE: FW: Letter From Minister Holland

Hello Heath,

Please find attached the updated PAF, I have also addressed the comments in **bold** – please let me know if you'd like to discuss.

-

-

s.21(1)(a)
s.21(1)(b)
s.21(1)(c)

•

•

•

•

Thanks,
-Luke

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Monday, July 18, 2022 1:26 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Subject: RE: FW: Letter From Minister Holland

Thanks Josh - this is good to have for sure.

s.21(1)(a)

s.21(1)(b)

s.21(1)(c)

For our chat

I have a few edits on text will share minor

The one pager went out back in February so I will share it with Kalie again just as info in case Francis sees the list and has questions. That one pager notes it will be Jobs and Growth which is no longer case.

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Wednesday, July 13, 2022 8:23 AM
To: Jeanetta Hill <Jeanetta.Hill@ACO-APECA.GC.CA>
Subject: FW: FW: Letter From Minister Holland

Jeanetta,

As referenced in my note to you yesterday regarding the PAF for CNER, please find attached the letter from Min Holland to Min Wilkinson affirming the government's and utility's ongoing support for SMR development and deployment.

The letter will be added to the project file,

Josh

s.19(1) **From:** Wayne Power <
s.21(1)(a) **Sent:** Tuesday, July 12, 2022 5:26 PM
s.21(1)(b)
s.21(1)(c)

To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Subject: Fwd: FW: Letter From Minister Holland

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FYI as discussed

Wayne

Wayne T. Power
Nuclear Secretariat
Province of New Brunswick

----- Forwarded message -----

From: MacFarlane, Tom (DNRED/MRNDE) <Tom.MacFarlane@gnb.ca>

Date: Tue, Jul 12, 2022 at 2:19 PM

Subject: FW: Letter From Minister Holland

To: Wayne Power <

From: Marshall, Mandey (DNRED/MRNDE) <Mandey.Marshall@gnb.ca>

Sent: Tuesday, July 12, 2022 2:17 PM

To: Minister.Ministre@NRCan-RNCan.gc.ca

Cc: MacFarlane, Tom (DNRED/MRNDE) <Tom.MacFarlane@gnb.ca>; Libby, Cade (ELG/EGL-RDC/SDR-IGA/MAI-DAA/MAA) <Cade.Libby@gnb.ca>

Subject: Letter From Minister Holland

Minister Wilkinson,

Please see the attached letter from Honourable Mike Holland, Minister of Natural Resources and Energy Development.

Thank you,

Mandey Marshall

Administrative Assistant / Adjointe administrative

Office of the Assistant Deputy Minister / Bureau du sous-ministre adjoint

Natural Resources and Energy Development | Ressources naturelles et Développement de l'énergie



Page 1362

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20(1)(b), 20(1)(c), 20(1)(d), 21(1)(b)

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19(1), 20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Moltex
Attachments: Business plan Sep 2023 .docx
Sent: 5/21/2025 10:43:42 AM

From: Jeanetta Hill
Sent: Wednesday, September 27, 2023 12:51 PM
To: Josh Jenkins <Josh.Jenkins@ACOA-APECA.GC.CA>
Cc: Rima Thomeh <rima.thomeh@ACOA-APECA.GC.CA>
Subject: FW: Moltex

From today – this is the business plan we have?

From: Nicholas Charney
Sent: Wednesday, September 27, 2023 12:14 PM
To: Jeanetta Hill ; Kalie Hatt-Kilburn ; Kafa El Zamer ; Rima Thomeh
Cc: Christopher Haley
Subject: FW: Moltex
See request from Jake.
Ty!

From: Jacob Beal <Jacob.Beal@acoa-apeca.gc.ca>
Sent: Wednesday, September 27, 2023 11:12 AM
To: Christopher Haley <Christopher.Haley@acoa-apeca.gc.ca>
Cc: Nicholas Charney <Nicholas.Charney@acoa-apeca.gc.ca>
Subject: FW: Moltex

Can you make sure the region on NB is able to speak to this. I believe this is already on their list as I asked for an updated briefing on this.

Cheers,
Jake

From: Rory O'Sullivan <Rory.O'Sullivan@moltexenergy.com>
Sent: Wednesday, September 27, 2023 11:09 AM
To: Emily Walsh <Emily.Walsh@acoa-apeca.gc.ca>; Jacob Beal <Jacob.Beal@acoa-apeca.gc.ca>
Subject: Re: Moltex

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Hi Jake and Emily,

s.19(1)
s.20(1)(b)
s.20(1)(c)
s.20(1)(d)
s.21(1)(b)

Thanks and regards,
Rory

From: Emily Walsh <Emily.Walsh@acoa-apeca.gc.ca>
Sent: 21 September 2023 17:19
To: Rory O'Sullivan <_____@moltexenergy.com>
Subject: Re: Moltex

Hi Rory,

Thanks for reaching out. I am going to do some outreach on my side and check in with some of my colleagues on this and will be in touch regarding setting up a call to further discuss.

Best,
Emily

Emily Walsh

Atlantic Regional Advisor & Special Assistant Operations | Conseillère régionale pour l'Atlantique et Adjointe spéciale aux opérations
Office of the Minister of Rural Economic Development and Minister responsible for the Atlantic Canada Opportunities Agency | Cabinet de la ministre du Développement économique rural et ministre responsable de l'Agence de promotion économique du Canada atlantique
Emily.Walsh@ACO-APECA.gc.ca | (343) 576 0075

From: Rory O'Sullivan <_____@moltexenergy.com>
Sent: Thursday, September 21, 2023 2:49:00 PM
To: Emily Walsh <Emily.Walsh@acoa-apeca.gc.ca>
Subject: Moltex

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Hi Emily,

Would you have time to chat and go over things to ensure you have the context and background?

Thanks and regards,
Rory O'Sullivan
Chief Executive Officer

_____@moltexenergy.com



Moltex Energy
75 Prince William Street | Unit 102 | Saint John | New Brunswick | Canada | E2L 2B2
+1 506 214 8551 | info@moltexenergy.com | www.moltexenergy.com

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- s.19(1)
- s.20(1)(b)
- s.20(1)(c)
- s.20(1)(d)
- s.21(1)(b)

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Moltex one-pager
Attachments: Project Overview Moltex WATSS Hot-cell Demonstration JJ & JH edits.docx
Sent: 5/21/2025 10:45:42 AM

From: Jeanetta Hill
Sent: Tuesday, November 28, 2023 10:16 AM
To: Josh Jenkins <Josh.Jenkins@ACOA-APECA.GC.CA>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Cc: Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>; Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>
Subject: RE: Moltex one-pager

Thank you – this is a good summary and I was pleased that we have had the discussions in advance. I have made a few suggestions for consideration for the DGs who may not all be aware of first project and also for MINO as they have asked for this one as well.

Can I also have how many Moltex employees in NB - is it their mgmt. team here?
Next version can also be shared with Kalie's office Josh – thanks
J

From: Josh Jenkins
Sent: Monday, November 27, 2023 3:19 PM
To: Jeanetta Hill
Cc: Luke Bulmer ; Josh Waite ; Crystal Hawkes ; Kafa El Zamer ; Janelle Landry
Subject: Moltex one-pager
Importance: High

Hi Jeanetta,

Would appreciate any comments you might have on the attached one-pager for Moltex. Gave ED Directors a heads up on our call today that we'll be circulating it on an urgent basis in the next day or so.

PAF is also being finalized and should be ready for your review tomorrow; will keep you posted,

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626 / Cell: 506-227-9520 / TTY:1-877-456-6500

Directeur, Innovation, commerce et croissance des entreprises

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

Josh.Jenkins@canada.ca / Tél: 506-851-3626 / Cell: 506-227-9520 / ATS:1-877-456-6500

s.21(1)(b)

s.21(1)(c)

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20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

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de la Loi sur l'accès à l'information

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Moltex QA 217315 \$1M
Attachments: Project Over 1M - Moltex QA 217315 (003).docx
Sent: 5/21/2025 10:23:45 AM

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Tuesday, January 26, 2021 2:07 PM
To: Lindsay Walker <Lindsay.Walker@ACOA-APECA.GC.CA>
Subject: FW: Moltex QA 217315 \$1M

Could throw into one note jic (just in case)

From: Landry5, Christine (ACOA/APECA)
Sent: Tuesday, January 26, 2021 2:05 PM
To: Hill, Jeanetta (ACOA/APECA) ; MacDonald, Linda (ACOA/APECA)
Subject: FW: Moltex QA 217315 \$1M

Christine Landry

Executive Assistant, New Brunswick Region
Atlantic Canada Opportunities Agency / Government of Canada
christine.landry5@canada.ca / Tel: 506-452-4127 / TTY: 1-877-456-6500
Adjointe exécutive, Bureau du Nouveau-Brunswick
Agence de promotion économique du Canada atlantique / Gouvernement du Canada
christine.landry5@canada.ca / Tél. : 506-452-4127 / ATS : 1-877-456-6500

From: Landry5, Christine (ACOA/APECA)
Sent: Monday, November 16, 2020 10:09 AM
To: Hatt-Kilburn, Kalie (ACOA/APECA) <kalie.hatt-kilburn@canada.ca>
Subject: FW: Moltex QA 217315 \$1M

Christine Landry

Executive Assistant, New Brunswick Region
Atlantic Canada Opportunities Agency / Government of Canada
christine.landry5@canada.ca / Tel: 506-452-4127 / TTY: 1-877-456-6500
Adjointe exécutive, Bureau du Nouveau-Brunswick
Agence de promotion économique du Canada atlantique / Gouvernement du Canada
christine.landry5@canada.ca / Tél. : 506-452-4127 / ATS : 1-877-456-6500

From: Scholten, Daniel (ACOA/APECA) <daniel.scholten@canada.ca>
Sent: Thursday, November 12, 2020 2:10 PM
To: ACOA.F DGProgramsOpsCommittee-ComiteProgOperationsDG F.APECA
<ACOA.DGProgramsOpsCommittee-ComiteProgOperationsDG.APECA@canada.ca>
Cc: Landry5, Christine (ACOA/APECA) <christine.landry5@canada.ca>; Cavanaugh, Nathalie (ACOA/APECA) <nathalie.cavanaugh@canada.ca>; McKinnon, Debbie (ACOA/APECA) <debbie.mckinnon@canada.ca>
Subject: Moltex QA 217315 \$1M

Hello everyone,

Please find attached a project overview for Moltex. The company is working towards licencing and constructing the first of a kind (FOAK) waste-burning reactor in New Brunswick, Canada.

Comments welcome...thanks everyone,

Daniel

Daniel Scholten

Director, Innovation, Trade & Business Growth /Directeur, Innovation, commerce et croissance
des entreprises

Atlantic Canada Opportunities Agency/Agence de promotion économique de Canada
atlantique

Telephone/telephone: (506) 452-3335/1-800-561-4030

e-mail/courriel: Daniel.scholten@canada.ca

Project Overview

COMPANY NAME	Moltex Energy Canada Inc.		
LOCATION	Saint John, New Brunswick		
PROJECT NAME	Oxide Nuclear Reduction Demonstration (ONWARD) for SMR development		
ASSISTANCE REQUESTED	\$ 3,000,000	TOTAL PROJECT COST	
ACOA PROGRAM	Regional Economic Growth through Innovation (REGI) – Cond. repayable		
CLIENT EXPOSURE			
BRIEF COMPANY PROFILE			
Sales Revenue:		EBIDTA:	
<p>Established in 2012, Moltex is a start-up technology company co-founded by Dr. Ian Richard Scott and John Durham. Moltex is developing a range of molten salt reactors (MSRs) known as Stable Salt Reactors (SSRs), one of which, called the Stable Salt Reactor Wasteburner (SSR-W300) is specifically designed for burning used nuclear fuel. In parallel, Moltex Energy is also developing the Waste To Stable Salts (WATSS) technology to convert and recycle used nuclear fuel to be burnt in the SSR-W300.</p>			
BRIEF PROJECT DESCRIPTION			
RATIONALE			
<ul style="list-style-type: none"> • SMRs are a potentially game-changing nuclear technology that could provide benefits for the economy, bolster innovation and actions to reduce GHG. • • • • • 			
COMPETITIVE IMPACT AND CHALLENGES			
<ul style="list-style-type: none"> • • • • 			
PREPARED BY	Ted Parisé		
PREPARED DATE	2020-11-09		

s.20(1)(b)
 s.20(1)(c)
 s.20(1)(d)
 s.21(1)(b)
 s.21(1)(c)

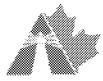
From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Moltex Update (September 2023)
Attachments: Moltex Update (Sept 29, 2023).docx
Sent: 5/21/2025 10:44:05 AM

From: Rima Thomeh <Rima.Thomeh@acoa-apeca.gc.ca>
Sent: Friday, September 29, 2023 3:46 PM
To: Nicholas Charney <Nicholas.Charney@acoa-apeca.gc.ca>; Christopher Haley <christopher.haley@ACO-APECA.GC.CA>
Cc: Jeanetta Hill <Jeanetta.Hill@ACO-APECA.GC.CA>
Subject: Moltex Update (September 2023)

Hi Nick and Chris,
Please find attached a one pager on the current status of Moltex as requested by MINO.
Thank you,
Rima

Rima Thomeh (she/her/elle)

Strategic Advisor to the Director General of Operations | New Brunswick Regional Office
Atlantic Canada Opportunities Agency (ACOA) | Government of Canada
Rima.Thomeh@acoa-apeca.gc.ca | Tel: 506-260-0740 | TTY: 1-877-456-6500
Conseillère stratégique au directrice générale des opérations | Bureau régional du Nouveau-Brunswick
Agence de promotion économique du Canada atlantique (APECA) / Gouvernement du Canada
Rima.Thomeh@acoa-apeca.gc.ca | Tél. (506) 260-0740 | ATS. 1-877-456-6500



INFORMATION NOTE

Date:
September 29, 2023

Subject: Moltex Energy Canada Update

Background

- The world’s energy systems are undergoing rapid transition triggered by simultaneous shifts in technological development, regulations, consumer preferences, and investor sentiment.
- Moltex Energy Canada (Moltex) is a company developing two complementary technologies to address nuclear waste and produce carbon-free energy:
 - Waste To Stable Salt (WaTSS) is a small-footprint facility for recycling spent fuel bundles from Canada’s existing CANDU reactors, producing safer end products and fuel for a molten salt advanced small modular reactor (aSMR).
 - The Stable Salt Reactor – Wasteburner (SSR-W) is an aSMR that uses the fuel produced by WaTSS, in an inherently safe facility that occupies much less space than required by a conventional reactor.
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-

Current Status

-
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- s.20(1)(b) On September 25, 2023, several First Nations communities in New Brunswick, led by the s.20(1)(c) North Shore Mi’kmaq District Council, announced they are investing \$3 million in small s.20(1)(d) modular nuclear reactors (SMRs) as part of an environmental and economic initiative. They s.21(1)(b)
- s.21(1)(c)

have signed an equity agreement to buy \$2 million in shares with Moltex Energy and \$1 million with ARC Clean Energy. Details of the equity agreements are not yet known.

-
- Moltex is the only fully Canadian SMR technology being developed with a utility and the only SMR technology that is not subject to US export control restrictions.

Position of ACOA

- Investment in new clean energy technologies such as nuclear innovation is essential to achieving the decarbonization needed to achieve Canada's climate goals.
-
- The Agency continues to work collaboratively across a range of federal departments to advance the SMR file.
-

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)

s.21(1)(c)

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Moltex update doc
Attachments: Project Overview Moltex WATSS Hot-cell Demonstration FINAL-NRCAN.docx
Sent: 5/21/2025 10:45:52 AM

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Wednesday, December 6, 2023 1:12 PM
To: sharonne.katz@NRCan-RNCan.gc.ca <sharonne.katz@NRCan-RNCan.gc.ca>
Cc: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>
Subject: Moltex update doc

Hi Sharonne,

Kalie asked me to send you the attached document, which we used to support decision-making within the Agency and should have the most up-to-date information on Moltex.

Please let me know if you have any questions – thanks,

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626 / Cell: 506-227-9520 / TTY:1-877-456-6500

Directeur, Innovation, commerce et croissance des entreprises

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

Josh.Jenkins@canada.ca / Tél: 506-851-3626 / Cell: 506-227-9520 / ATS:1-877-456-6500

Project Overview

(Template for projects seeking assistance over \$1M)

COMPANY NAME	Moltex Energy Canada (MEC) Inc.		
LOCATION	Saint John, NB & Chalk River Laboratories, Deep River, ON		
PROJECT NAME	Demonstrate the WATSS technology using spent CANDU fuel		
ASSISTANCE REQUESTED	cond. repayable	TOTAL PROJECT COST	
ACOA PROGRAM	REGI – BSP	QA# 225246	
CLIENT EXPOSURE			
BRIEF COMPANY PROFILE			
<p>Established in 2018 and co-founded by Dr. Ian Richard Scott and John Durham, Moltex Energy Canada (MEC) Inc. is a start-up nuclear power development company. They are a subsidiary of Moltex Energy Limited which is headquartered in the UK and was established in 2012. MEC is developing a range of molten salt reactors (MSRs) known as Stable Salt Reactors (SSRs), one of which, called the Stable Salt Reactor - Wasteburner (SSR-W), is specifically designed for burning used nuclear fuel. In parallel, MEC is also developing the Waste To Stable Salts (WATSS) technology to convert and recycle used nuclear fuel to be the fuel source in the SSR-WWATSS</p>			
BRIEF PROJECT DESCRIPTION			
<p>The project will demonstrate the Moltex Waste To Stable Salt (WATSS) technology</p> <p>This demonstration using spent CANDU fuel (“hot cells”) also builds on the previous project ACOA supported, QA#217315 for \$3M, which sought to design, procure and assemble the equipment to complete a demonstration</p>			
RATIONALE			
<p>The pressure is rising for Canada to reach its GHG emission goals. Under the Paris Agreement, Canada committed to reducing its GHG emissions by 30% below 2005 levels by 2030, and to achieving a net-zero electrical grid by 2035. The Government of Canada has also committed to achieving a prosperous net-zero emissions future by 2050.</p> <p>Because SMRs can provide a reliable, non-emitting source of baseload energy, they are seen as an important complement to the integration of intermittent renewable energy generation technologies, such as wind and solar. As utilities reduce reliance on coal and move toward non-emitting energy production, provinces and utilities in Atlantic Canada have underscored the need to identify new, reliable energy generation options that can support baseload requirements.</p>			

- s.20(1)(b)
- s.20(1)(c)
- s.20(1)(d)
- s.21(1)(b)
- s.21(1)(c)



- The Government of New Brunswick continues to reinforce its support of aSMR development and deployment in the province, as demonstrated through the 2023 Speech from the Throne, which stated “the growth in wind and new energy sources like hydrogen and small modular reactors offers investment opportunities for First Nation communities as well as attracting new business investment and job creation.”
- In November 2023, legislation was introduced which would not only exempt the first two SMRs from an existing law that forces NB Power to buy the cheapest source possible - it goes further, requiring the utility to choose nuclear-generated electricity once the reactors are up and running, at a premium. This indicates the continuing support to bring the aSMR designs to their deployment at Lepreau.
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COMPETITIVE IMPACT AND CHALLENGES

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s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)

s.21(1)(c)

PREPARED BY	Luke Bulmer
PREPARED DATE	December, 2023

From: [Crystal Hawkes](#)
To: [Crystal Hawkes](#)
Subject: Fw: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project
Attachments: ACOA - Request for Designation under IAA - Letter to Federal Authorities (Notification and Request for Information).pdf
Sent: 5/21/2025 10:32:06 AM

From: Danika LeBlanc <Danika.LeBlanc@ACOA-APECA.GC.CA>
Sent: Tuesday, October 25, 2022 4:35 PM
To: Reactor-Reacteur@iaac-aeic.gc.ca <Reactor-Reacteur@iaac-aeic.gc.ca>
Cc: Josh Jenkins <Josh.Jenkins@ACOA-APECA.GC.CA>; Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>; Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Subject: RE: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hello Joseph,

Please find attached the completed Request for Federal Expert Advice, in relation to the Designation Request for the Proposed Small Modular Reaction Demonstration Project under the Impact Assessment Act. ACOA's responses are in reference to the ACOA funded project. Below is additional context and detail around ACOA's involvement with the Énergie NB Power's Small Modular Reactor Program, Phase II, and its deliverables:

ACOA Project Description:

"This project will enable NB Power to undertake activities to prepare for deployment and demonstration of small modular reactor (SMR) technologies at an approved nuclear site in New Brunswick. The project will focus on foundational activities such as establishing baseline site designs and addressing environmental and regulatory requirements. Project deliverables will include creating preliminary site designs, negotiating power purchase agreements, coordinating with the Canadian Nuclear Security Commission for vendor design review, establishing a fuel supply, and overseeing project planning and financing. NB Power will also be pursuing engagements with First Nations and the public as part of this project."

- Énergie NB Power's Small Modular Reactor Program, Phase II, includes the following activities:
 - Engineering support and review services:
 - To support the development of conceptual and preliminary designs of both the Moltex and ARC technologies,
 - Site evaluation and placement studies,
 - Utilities Requirement Document (URD) which outlines key safety, design, operational and project attributes the Owner/Operator requires.
 - Licensing and Regulatory:
 - Reviews and advice to ARC as they complete the Vendor Design Review (VDR) Phase 2,
 - Initiation of discussions with the CNSC related to WATSS and used fuel recycling,

- Working with the technology vendors to prepare the License To Prepare Site (LTPS) application,
 - Conduct preliminary discussions with CNSC on pre-licensing, LTPS, IA, and License to Construct
- Environment and Engagement:
 - Conduct specific environmental and baseline studies,
 - Prepare draft Project Descriptions for both technologies,
 - Conduct engagement activities with First Nations, the Public, and key stakeholders.
- Operations and Management System Development:
 - Develop management system framework, initial policies and procedures for the Owner/Operator,
 - Provide advice to both ARC and Moltex relating to management systems,
 - Provide operations input into both vendor designs,
 - Conduct initial planning activities associated with recruitment, staffing, and training operational staff for the SMR demonstration units.
- Finance and Business:
 - Develop Owner/Operator costs and controls,
 - Develop overall project plan and schedule(s),
 - Provide review and advice to ARC and Moltex on project plans, and cost estimates,
 - Prepare a framework for the Power Purchase Agreement(s) (PPA),
 - Establish a framework for the Owner/Operator consortium,
 - Interface and work with NB Power Transmission and Marketing on the integration of SMRs into the New Brunswick electrical grid,
 - Begin initial stages of the Phase 2 of the SMR Supply Chain assessment.

Additionally, for clarification, I want to underline the fact ACOA has not directly supported the ARC technology research or development, on which this Request for Input is focused. The NB Power project ACOA has supported has undergone both our internal Impact Assessment and Duty to Consult processes, and did not trigger either for further assessment or consultation, respectively. I would be happy to connect and discuss this further at your convenience,

Thank you,

Danika LeBlanc, CPA, CGA

Manager, Innovation

Atlantic Canada Opportunities Agency / Government of Canada

Danika.leblanc@acoa-apeca.gc.ca / Tel : 506-381-8718 / TTY: 7-1-1

Gestionnaire, Innovation

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

Danika.leblanc@acoa-apeca.gc.ca / Tél. : 506-381-8718 / ATS : 7-1-1

From: Reactor-Reacteur (IAAC/AEIC) <Reactor-Reacteur@iaac-aeic.gc.ca>

Sent: Wednesday, October 5, 2022 11:18 AM

To: FCR_Tracker@ec.gc.ca; TCFCRMAR@tc.gc.ca; sean.belyea@cnscccsn.gc.ca;

Joe.Behar@sac-isc.gc.ca; James Neary <James.Neary@rcaanc-cirnac.gc.ca>;

CarolLee.Giffin@forces.gc.ca; INFCERA-EEA@inf.gc.ca; Information (ACOA/APECA)

<information@acoa-apeca.gc.ca>; patrick.hum@ised-isde.gc.ca; contact@cib-bic.ca; Referrals-Maritimes.XMAR@dfo-mpo.gc.ca;

Smith, Walker <Walker.smith@nrca-nrcan.gc.ca>

Cc: michael.hingston@ec.gc.ca; shelley.ball@nrca-nrcan.gc.ca; christopher.burbidge@dfo-mpo.gc.ca;

Flanagan, Jason <jason.flanagan@tc.gc.ca>; Kwamena, Nana-Owusua <nana-owusua.kwamena@cnscccsn.gc.ca>;

Harpell, Heather <Heather.harpell@cnscccsn.gc.ca>;

candida.cianci@canada.ca; melissa.quinn@inf.gc.ca; Jennifer Mullane

<Jennifer.Mullane@ACOIA-APECA.GC.CA>; jparmar@cib-bic.ca; Belland, Brenna (IAAC/AEIC)

<Brenna.Belland@iaac-aeic.gc.ca>; Savard,Micheline (IAAC/AEIC) <micheline.savard@iaac-aeic.gc.ca>

Subject: Request for Input - Designation Request for the Small Modular Reactor Demonstration Project

Hello All,

Please find attached a letter and related information from the Impact Assessment Agency of Canada regarding a request sent to the Minister of Environment and Climate Change to designate the Small Modular Reactor Demonstration Project at Point Lepreau, NB. The Agency is requesting your input by **October 25, 2022** in order to help inform the Minister on whether the project should be designated.

If you have any questions, do not hesitate to get in touch.

Regards,

Joe Vigder
(he/him | il)

Project Manager, Atlantic Region

Impact Assessment Agency of Canada / Government of Canada

joseph.vigder@iaac-aeic.gc.ca / Tel : 902-229-9637

Gestionnaire de projets, région atlantique

Agence d'évaluation d'impact du Canada / Gouvernement du Canada

joseph.vigder@iaac-aeic.gc.ca / Tél : 902-229-9637



Government of Canada
Gouvernement du Canada

Canada



Suite 200
1801 Hollis Street
Halifax NS B3J 3N4

Bureau 200
1801 rue Hollis
Halifax, NS B3J 3N4

Agency File No: 83998

October 5, 2022

ELECTRONIC MAIL

Request for Federal Expert Advice

Dear Colleague:

Subject: Designation Request for the Proposed Small Modular Reactor Demonstration Project under the *Impact Assessment Act*

On July 4, 2022, the Minister of Environment and Climate Change (the Minister) received a request to designate the proposed Small Modular Reactor (SMR) Demonstration Project (the Project) under subsection 9(1) of the *Impact Assessment Act* (IAA) (Attachment I).

Prerequisite for Initiating the Designation Request Process

Before the Impact Assessment Agency of Canada (the Agency) was able to begin the designation request process, it had to determine whether or not any of the proposed activities are already described in the *Physical Activities Regulations* (the Project List). The Minister can only designate a project that is not already described on the Project List.

The requestor, the Coalition for Responsible Energy Development in New Brunswick, indicated that Énergie NB Power (the Proponent) is currently exploring two nuclear reactor designs from two separate vendors for commercial demonstrations at the Point Lepreau Nuclear Facility in New Brunswick:

- Advanced Reactor Concepts (ARC) Clean Energy Canada Inc.'s ARC-100 sodium-cooled fast reactor; and
- Moltex Energy's molten salt reactor and accompanying spent fuel recovery system and fuel reprocessing facility.

Based on the information provided by the Proponent, the Agency is of the view that the Moltex SMR commercial demonstration unit, should it proceed as the Proponent has described, would likely involve activities that are described on the Project List (subsections 26(a) and/or 26(c)), and therefore subsection 9(1) of the IAA cannot apply. On the other hand, the single ARC SMR commercial demonstration unit, as described by the Proponent, would not involve any activities that are described on the Project List and therefore, subsection 9(1) can

.../2

apply. Based on the information provided by the Proponent, the Agency is also of the view that the proposed ARC and Moltex SMR commercial demonstration units are separate projects¹. Therefore, on October 4, 2022 the Agency began the designation request process for the ARC SMR commercial demonstration project.

The Proposed Project

The Project would be located at the existing Point Lepreau Nuclear Facility, near Maces Bay, New Brunswick. The Proponent is proposing the commercial demonstration of an ARC SMR sodium-cooled fast reactor that would generate 286 – 429 MWth to yield 100 to 150 MWe to supply the electrical grid. Enclosed with this letter you will find additional project information from the Proponent and a proposed site layout diagram (Attachments II and III).

Designation Request Process

Under subsection 9(1) of the IAA, the Minister may, by order, designate a physical activity that is not prescribed in the Project List. The Minister may do this if, in the Minister's opinion, the physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects (resulting from federal decisions, including funding), or public concerns related to those effects warrant the designation. In accordance with subsection 9(4) of the IAA, it is expected that the Minister will respond, with reasons, to the request by January 2, 2023.

The Agency will review information about the Project, any concerns expressed from the public (that the Agency is aware of) and Indigenous groups, expert advice from federal authorities, and input from the Province to inform the Minister on whether the Project should be designated. If designated, to proceed with the Project the Proponent would be required to submit an Initial Project Description, thereby commencing the planning phase of the IAA. In that case, the planning phase would include the Agency determining whether a federal impact assessment is required.

.../3

¹ Although both are being proposed by the same Proponent and both would be at the Point Lepreau Nuclear Facility, the Agency notes that the two units would be supplied by separate vendors and use different technologies; neither project is subordinate or complementary to the other, nor are they functionally connected; and each would proceed independently. The projects are also at substantially different phases of development and each is progressing along separate timelines. The Agency also notes the Proponent's intention to submit separate licence applications to the Canadian Nuclear Safety Commission and undergo separate provincial environmental assessment processes for the two projects.

Additional information regarding the process for designation requests can be found at the following link: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/designating-project-impact-assessment-act.html>.

Seeking Federal Authority Advice

The Agency is requesting that you complete and provide the attached form by **October 25, 2022**.

A Registry page for the Project (Reference Number: 83998) is now available on the Canadian Impact Assessment Registry Internet site. Please use the following email address Reactor-Reacteur@iaac-aeic.gc.ca, which will also be posted on the Project's Registry page, to provide the Agency with information regarding this file.

Important Note: All records produced, collected or received in relation to the designation request process – unless prohibited under the *Access to Information Act* or *Privacy Act* – will be considered public and may be released on the Project's Registry page. Should you wish to provide any comments or documents that contain confidential or sensitive information that you believe should be protected from release to the public, please contact the Agency before submitting the information. Information marked as confidential will not be accepted without prior contact made with the Agency.

If you have any questions regarding the designation process or the response sheet, please do not hesitate to contact me at 902-229-9637 or Reactor-Reacteur@iaac-aeic.gc.ca.

Sincerely,

Joseph Vigder
Project Manager, Atlantic

Attachments (3)

- 1 - Designation request
- 2 - Proponent's project information
- 3 - Project layout diagram

ATTACHMENT: October 5, 2022
Federal Authority Advice Record: Designation Request under IAA
Response due by October 25, 2022
 Small Modular Reactor Demonstration Project

Department/Agency	Atlantic Canada Opportunities Agency (ACOA)
Lead Contact	Luke Bulmer
Full Address	500-81 Regent St. PO Box 578 Fredericton, NB E3B 5A6 Canada
Email	Luke.Bulmer@acoa-apeca.gc.ca
Telephone	(506) 282-2621
Alternate Departmental Contact	Danika LeBlanc

PLEASE NOTE THE BELOW RESPONSES ARE IN REFERENCE TO THE ACOA FUNDED PROJECT WITH NEW BRUNSWICK POWER CORPORATION WHICH SUPPORTS PHASE II OF THEIR SMR DEVELOPMENT PROGRAM. ACOA'S PROJECT WILL ENABLE NB POWER TO UNDERTAKE ACTIVITIES TO **PREPARE** FOR DEPLOYMENT AND DEMONSTRATION OF SMR TECHNOLOGIES AT AN APPROVED NUCLEAR SITE - POINT LEPREAU NUCLEAR GENERATING STATION SITE. THE PROJECT IS FOCUSED ON FOUNDATIONAL ACTIVITIES SUCH AS ESTABLISHING BASELINE SITE DESIGNS AND ADDRESSING ENVIRONMENTAL AND REGULATORY REQUIREMENTS. PROJECT DELIVERABLES WILL INCLUDE CREATING PRELIMINARY SITE DESIGNS, NEGOTIATING POWER PURCHASE AGREEMENTS, COORDINATING WITH THE CANADIAN NUCLEAR SECURITY COMMISSION FOR VENDOR DESIGN REVIEW, ESTABLISHING A FUEL SUPPLY, AND OVERSEEING PROJECT PLANNING AND FINANCING. NB POWER WILL ALSO BE PURSUING ENGAGEMENTS WITH FIRST NATIONS AND THE PUBLIC AS PART OF THIS PROJECT.

-
1. Has your department or agency considered whether it has an interest in the Project; exercised a power or performed a duty or function under any Act of Parliament in relation to the Project; or taken any course of action (including provision of financial assistance) that would allow the Project to proceed in whole or in part?

Specify as appropriate.

ACOA has provided funding to Énergie NB Power that allows the above noted project to proceed in whole or in part.

-
2. Is it probable that your department or agency may be required to exercise a power or perform a duty or function related to the Project to enable it to proceed?

If yes, specify that power, duty or function and its legislative source.

Please refer to above response.

3. If your department or agency will exercise a power or perform a duty or function under any Act of Parliament in relation to the Project, will it involve public and Indigenous consultation?

Specify as appropriate.

ACOA completes both a Duty to Consult, and an Impact Assessment during the evaluation of all projects under consideration for financial assistance.

4. Is your department or agency in possession of specialist or expert information or knowledge that may be relevant to any potential adverse effects within federal jurisdiction caused by the Project or adverse direct or incidental effects stemming from the Project?

Specify as appropriate.

No, ACOA does not have possession of specialist or expert information or knowledge that may be relevant to any potential adverse effects within federal jurisdiction caused by the Project or adverse direct or incidental effects stemming from the Project. However, ACOA received expert advice and consults with PSPC in matters that involve DTC and IAA.

5. Has your department or agency had previous contact or involvement with the Proponent or other parties in relation to the Project?

Provide an overview of the information or advice exchanged.

ACOA received a Project proposal from the Proponent for the previously noted project, and has entered into a contribution agreement (financial assistance) with the Proponent.

6. From the perspective of the mandate and area(s) of expertise of your department or agency, does the Project have the potential to cause adverse effects within federal jurisdiction or adverse direct or incidental effects as described in section 2 of IAA? Could any of those effects be managed through legislative or regulatory mechanisms administered by your department or agency? If a licence, permit, authorization or approval may be issued, could it include conditions in relation to those effects?

Specify as appropriate.

From the perspective of the legislative mandate of the Department, ACOA is unaware of any potential Project-related adverse effects within federal jurisdiction.

7. Does your department or agency have a program or additional authority that may be relevant and could be considered as a potential solution to concerns expressed about the Project? In particular, the following issues have been raised by the requestor:

- Protecting Indigenous Rights
- Impacts to Fish and Fish Habitat
- Impacts to Species at Risk
- Impacts to Migratory Birds
- Effects to Lands Outside of New Brunswick
- Impacts of Accidents and Malfunctions
- Impacts to Bay of Fundy rural coastal lands, communities and local industries and enterprises (e.g. fishing, wild blueberry farms, tourism)
- Cumulative Effects
- Alternatives to and Alternative Means of Carrying out the Project
- Long-term Management of Nuclear Waste
- Non-proliferation of Nuclear Weapons

If yes, please specify the program or authority.

No.

8. Does your department or agency have information about the interests of Indigenous groups in the vicinity of the Project; the exercise of their rights protected by section 35 of the *Constitution Act, 1982*; and/or any consultation and accommodation undertaken, underway, or anticipated to address adverse impacts to the section 35 rights of the Indigenous groups?

If yes, please specify.

Yes, ACOA acknowledges that the Point Lepreau Nuclear Generating Site (PLNGS) is located within the territory covered by the Peace and Friendship Treaties with the Maliseet, Passamaquoddy and Mi'gmaq peoples. Hence, the project activities within the ACOA project to engage/consult with these First Nation Communities

9. If your department has guidance material that would be helpful to the Proponent or the Agency, please include these as attachments or hyperlinks in your response.

Luke Bulmer

Name of departmental / agency responder

Economic Development Officer

Title of responder

October 24, 2022

Date

From: [Crystal Hawkes](mailto:Crystal.Hawkes@acoa-peca.gc.ca)
To: [Crystal Hawkes](mailto:Crystal.Hawkes@acoa-peca.gc.ca)
Subject: Fw: URGENT - Project Over \$1M - Moltex
Sent: 5/21/2025 10:45:52 AM

From: Kafa El Zamer <Kafa.ElZamer@ACOIA-APECA.GC.CA>
Sent: Wednesday, November 29, 2023 8:30 AM
To: Josh Jenkins <Josh.Jenkins@ACOIA-APECA.GC.CA>
Cc: Jeanetta Hill <Jeanetta.Hill@ACOIA-APECA.GC.CA>
Subject: RE: URGENT - Project Over \$1M - Moltex

Sounds good!

From: Josh Jenkins <Josh.Jenkins@acoia-peca.gc.ca>
Sent: Wednesday, November 29, 2023 8:09 AM
To: Kafa El Zamer <Kafa.ElZamer@ACOIA-APECA.GC.CA>
Cc: Jeanetta Hill <Jeanetta.Hill@ACOIA-APECA.GC.CA>
Subject: RE: URGENT - Project Over \$1M - Moltex

What I'll try and get clarity from Tristan/Faith on is exactly what that will look like in terms of mechanics – e.g. part of a normal list with an “urgent” tag; a special urgent one-of list, etc... and we can decide if it's helpful to share those details with them.

The important thing is that the project doesn't get lost in all the current uncertainty and complexity around new processes. Will keep you posted,
Josh

From: Kafa El Zamer <Kafa.ElZamer@ACOIA-APECA.GC.CA>
Sent: Tuesday, November 28, 2023 6:32 PM
To: Josh Jenkins <Josh.Jenkins@acoia-peca.gc.ca>
Subject: FW: URGENT - Project Over \$1M - Moltex

Not sure we need to raise it again on the call tomorrow. Kalie went into detail last call and explained the project and the urgency for it to move up on a list and that we expect it to go to MINO soon – they did not raise any concern. If you would like us to raise it again, let me know and I can send you the invite to join in case they have any specifics.

From: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOIA-APECA.GC.CA>
Sent: Tuesday, November 28, 2023 6:08 PM
To: Krista Hicks <Krista.Hicks@ACOIA-APECA.GC.CA>; Josh Jenkins <Josh.Jenkins@acoia-peca.gc.ca>
Cc: Kafa El Zamer <Kafa.ElZamer@ACOIA-APECA.GC.CA>; Roger Miranda <Roger.Miranda@acoia-peca.gc.ca>; Jeanetta Hill <Jeanetta.Hill@ACOIA-APECA.GC.CA>; Crystal Hawkes <Crystal.Hawkes@ACOIA-APECA.GC.CA>
Subject: RE: URGENT - Project Over \$1M - Moltex

Thank you, Josh. I've attached a revised version with a few edits for your consideration to: simplify some of the technical language;

Please take a look and feel free to edit for accuracy.

We did do a heads up on last week's MINO call that this one was coming up and I provided some assurances that we were doing careful due diligence, but would be looking to advance a recommendation. Just a suggestion that if the plan is to raise this on tomorrow's call, you may want to consider joining Kafa for the call with MINO. This might relieve some pressure from her to address specific or technical questions that may arise relating to your due diligence. I'll let the two of you connect and coordinate.

Thanks again to you and your team for the diligence on this.

Kalie

From: Krista Hicks <Krista.Hicks@ACOIA-APECA.GC.CA>
Sent: Tuesday, November 28, 2023 5:07 PM
To: Josh Jenkins <Josh.Jenkins@acoia-peca.gc.ca>

s.20(1)(b)

s.20(1)(c)

s.21(1)(b)

s.21001391

Cc: Kafa El Zamer <Kafa.ElZamer@ACOA-APECA.GC.CA>; Roger Miranda <Roger.Miranda@acoa-apeca.gc.ca>; Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>

Subject: RE: URGENT - Project Over \$1M - Moltex

Importance: High

Josh, I'm copying Kafa on this where she and Roger are the only ones who will be on tomorrow's MINO call.

Krista Hicks

(she/her/elle)

Executive Assistant to the Assistant Deputy Minister & Vice-President, New Brunswick Region
Atlantic Canada Opportunities Agency (ACOA), Government of Canada

Krista.Hicks@acoa-apeca.gc.ca

Tel: (506) 238-4493 / **Single click dial-in:** **Tel:**15062384493 / **TTY:** 7-1-1

Adjointe exécutive de la sous-ministre adjointe et la vice-présidente, Bureau du Nouveau-Brunswick

Agence de promotion économique du Canada atlantique (APECA), Gouvernement du Canada

Krista.Hicks@acoa-apeca.gc.ca

Tél : (506) 238-4493 / **Appel en un seul clic :** **Tel:**15062384493 / **ATS :** 7-1-1

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Tuesday, November 28, 2023 5:00 PM

To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>; Roger Miranda <Roger.Miranda@acoa-apeca.gc.ca>

Cc: Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Josh Waite <Josh.Waite@ACOA-APECA.GC.CA>

Subject: FW: URGENT - Project Over \$1M - Moltex

Importance: High

Hi Everyone,

Please see attached and below... one-pager has been shared with ED Directors.

We're now focusing on finalizing the PAF and are aiming to share it with you for your review by cob tomorrow.

Would also welcome any comments you may have on the one-pager as we work to move it up to DGs once Directors have weighed in.

Also, am working with Tristan and Faith on the mechanics of moving the project up to MINO on an urgent basis once it's ready.

My hope is to have their recommendation in time for you to share it on your MINO call tomorrow, to ensure there're no surprises along the way.

Will keep you posted,

Josh

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Tuesday, November 28, 2023 4:11 PM

To: ACOA.F EnterpriseDevIDirectors-DirecteursDevIEntreprises F.APECA <enterprisedevldirectors-directeursdevlentreprises@acoa-apeca.gc.ca>

Subject: URGENT - Project Over \$1M - Moltex

Importance: High

Hi Everyone,

As mentioned on yesterday's call, attached you'll find the one-pager on a project we're recommending for Moltex Energy Canada.

This project is to enable additional R&D on their spent fuel recycling technology,

We've worked the project up in close consultation with NRCan's Nuclear Energy Division (validation on the science), as well as colleagues at SIF who are co-funding the development of the technology with a \$47.5M project announced in 2021.

Considerable effort has gone into synchronizing our project with theirs,

Please let me know if you have any questions or comments on the project – thanks,

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626/ Cell: 506-227-9520 / TTY:1-877-456-6500

Directeur, Innovation, commerce et croissance des entreprises

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

Josh.Jenkins@canada.ca / Tél: 506-851-3626/ Cell: 506-227-9520 / ATS:1-877-456-6500

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

s.20(1)(e)

s.14

s.20(1)(b)

s.21(1)(b)

s.21(1)(c)

ACTION ITEMS	

s.14

s.20(1)(b)

s.21(1)(b)

s.21(1)(c)

Created with OneNote.

From: [Jeanetta Hill](#)
To: [Josh Jenkins](#)
Subject: FW: Atlantica Centre for Energy - Energy Literacy Benchmark Study
REPORT Atlantica Centre for Energy-Energy Literacy Benchmark Study -
FINAL.pdf;Atlantica - Business Survey Report.pdf;Atlantica - Energy Literacy
Attachments: Business Depth Interviews Report.pdf;FINAL - Presentation to ACOA - 02-28-
2025.pdf;
Sent: 3/26/2025 5:09:00 PM

Because.... YOU Love ENERGY!!!!

From: Faith McIntyre
Sent: Monday, March 17, 2025 8:52 AM
To: ACOA.F DGProgramsOpsCommittee-ComiteProgOperationsDG F.APECA
Subject: FYI: Atlantica Centre for Energy - Energy Literacy Benchmark Study

Good morning,

I am sharing this as information – it was sent to VPs and others within the Agency.
FYI.

Faith

Faith McIntyre

Director General, Programs

Atlantic Canada Opportunities Agency | Government of Canada

Faith.mcintyre@acoa-apeca.gc.ca / Tel.: 902-940-1417

Directrice générale, Programmes

Agence de promotion économique du Canada atlantique / Gouvernement du Canada

faith.mcintyre@acoa-apeca.gc.ca / Tél.: 902-940-1417



Atlantic Canada
Opportunities
Agency

Agence de
promotion économique
du Canada atlantique

From: Wade AuCoin <Wade.AuCoin@ACO-APECA.GC.CA>

Sent: Monday, March 10, 2025 4:50 PM

To: Laura Lee Langley <LauraLee.Langley@acoa-apeca.gc.ca>; Daryell Nowlan <Daryell.Nowlan@ACO-APECA.GC.CA>; Dave Boland <Dave.Boland@ACO-APECA.GC.CA>; Chuck Maillet <Chuck.Maillet@ACO-APECA.GC.CA>; Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACO-APECA.GC.CA>; Patrick Dorsey <Patrick.Dorsey@ACO-APECA.GC.CA>; Kurt Chin Quee <Kurt.ChinQuee@acoa-apeca.gc.ca>; ACOA.F DGSPAC-DirecteursGenerauxPDIC F.APECA <dgspac-directeursgenerauxpdic@acoa-apeca.gc.ca>; ACOA.F HO PPC Directors-Directeurs PPC SS F.APECA <ppcdirectors-directeursppc@acoa-apeca.gc.ca>; POLICY <ACOAHOPolicy-PolitiquesSS.APECA@canada.ca>

Cc: ACOA.F VP PPC Office-Bureau du VP PPC F.APECA <VPPPCOffice-BureauduVPPPC@acoa-apeca.gc.ca>; Francis Jobin <Francis.Jobin@ACO-APECA.GC.CA>; Jason Ferguson <Jason.Ferguson@ACO-APECA.GC.CA>

Subject: Atlantica Centre for Energy - Energy Literacy Benchmark Study

Hello,

As a follow up to an email I circulated last Fall in which I shared a report by the Atlantica Centre for Energy on the energy literacy of the general population in Atlantic Canada (see previous email below), I am now sharing three subsequent reports that were part of another delivery under the same project supported by ACOA's Atlantic Policy Research Initiative: *Energy Literacy Benchmark Study for Atlantic Canada*. Atlantica presented the main findings of

the project to ACOA's DG PAC group on February 28, and you will also find attached the deck used for this presentation. **Please note that all documents are for internal use only and should not be shared outside the Agency.**

The objective of the project was to establish a baseline of the knowledge and attitudes of Atlantic Canadians and of SMEs in the region on energy-related topics, with the broader goal of making recommendations to improve energy literacy so that Atlantic Canadians can save money, reduce emissions, and grow the energy sector and the businesses that rely on it. Please find attached the final report for the overall study, which includes all parts of the study and offers recommendations to help governments and other energy sector stakeholders improve energy literacy levels in the Atlantic region. We have also attached the report on the business survey, and the report on the in-depth interviews with businesses. The Centre has decided not to publish due to low SME survey participation; however, useful insights were gleaned from the 77 completed surveys and 30 one-on-one interviews with SMEs, which is why we are sharing the report with you.

Highlights from the business survey and interviews include:

- **Knowledge and Interest:** Most businesses believe they have "good" knowledge about energy but are still interested in learning more, particularly about renewable energy and cost reduction.
- **Trustworthy Information:** Businesspeople feel that meaningful and reliable information should come from sources without perceived vested interests. Business or trade organizations play a key role in obtaining trustworthy energy-related information. Information from governments is considered the most trustworthy, similar to the general public's view.
- **Concerns About Costs:** Businesspeople in Atlantic Canada are overly concerned about rising energy costs and their impact on competitiveness. There is uncertainty about future energy pricing, with many speculating that costs will continue to increase. Despite this, there are limited options for implementing emerging energy technologies due to cost and feasibility barriers.
- **Need for Cleaner Energy:** Despite concerns about costs, or perhaps because of them, there is a strong consensus among businesses that the region needs to develop new sources of energy, especially cleaner energy sources.

The Centre's recommendations to improve energy literacy in the Atlantic region are as follows:

1. **Encouraging Informed Reading:** The Centre urges Atlantic Canadians to read extensively about energy, seeking out unbiased information that may challenge their personal opinions. It also encourages them to motivate others to do the same.
2. **Develop New Resources:** Provincial governments should quickly and collaboratively create new resources to fill existing information gaps, ensuring all residents have access to factual, unbiased, and approachable energy-related information in various formats (digital, print, audio, video).
3. **Support for Educational Tools:** Energy utilities and companies should support provincial departments in creating educational tools and resources to enhance energy literacy campaigns.
4. **Incremental Information Release:** Adopt a 'some is better than none' approach, releasing information as it is developed rather than waiting for a comprehensive resource.
5. **Centralized Leadership:** Consider leading energy literacy efforts from a central body, such as the Council of Atlantic Premiers, to maximize efficiency and effectiveness.
6. **Central Contact Points:** Establish a central contact point in each province for community leaders, media, and other stakeholders to answer technical energy questions, ensuring decision-makers and information disseminators have access to accurate and unbiased information.
7. **Early Public Engagement:** For project developments, utilities and energy developers should engage in early and thorough public engagement with nearby communities, including local Indigenous groups.

8. **Public Engagement:** The Centre advocates for the public to voice their support or concerns about energy plans and potential developments, especially when they feel sufficiently knowledgeable.
9. **Media Engagement:** Governments, communities, First Nations, and industry should engage with media to provide access to information and educational resources. To ensure stakeholder opinions are unbiased and factual, the Centre recommends interviewing uninvolved experts whenever possible.
10. **Consistency in Project Development:** Governments at all levels in the region should take steps to improve consistency in developing energy projects, including engagement efforts. Additionally, they should consider feedback and support for energy developments from areas beyond those immediately impacted.

Thank you!

Wade AuCoin

Director General, Policy

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From: Wade AuCoin <Wade.AuCoin@ACOIA-APECA.GC.CA>

Sent: Wednesday, October 30, 2024 1:58 PM

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Subject: Atlantica Centre for Energy - General Public Energy Literacy Benchmark Study

Hello,

The Atlantica Centre for Energy released on October 15, 2024 results of its [General Public Energy Literacy Benchmark Study](#). For your convenience, a copy of the report is also attached in both official languages. This study is supported by ACOA under the Atlantic Policy Research Initiative (APRI).

The study is part of a broader project, the *Energy Literacy Benchmark Study for Atlantic Canada*, which includes a survey of the general population, as well as interviews and a survey of small and medium-sized business leaders to understand knowledge and attitudes on energy in the Atlantic region. Findings from the business survey and interviews will be release at a later date.

For the General Population Survey, a total of 1,224 interviews were completed with 415 residents in New Brunswick, 407 in Nova Scotia, 256 from Newfoundland and Labrador and 146 from Prince Edward Island.

Highlights:

- Generally, Atlantic Canadians have a basic understanding of the energy used in their province but could have a better appreciation for the impact energy has and will continue to have on the region's economy.
- Only 25% of respondents gave themselves high ratings for knowledge of different types of energy used in their province, pointing to a need for more publicly available information from trusted sources.
- Regarding specific forms of energy, Atlantic Canadians claim to have more knowledge about electricity produced from fossil fuels than renewables and least for biomass, tidal and nuclear. Perceived knowledge of nuclear was higher in New Brunswick, where it is produced.
- Two thirds of respondents place high importance on the need to address climate change.
- The majority of respondents have no reservations about energy developments near their communities, especially for renewable energy projects. There is near unanimous agreement that new sources of energy need to be built in the next 10 years, and 8 in 10 felt it was important to transition to cleaner energy sources.

The Atlantica Centre for Energy will offer recommendations to help governments and other energy sector stakeholders take steps to improve energy literacy levels in their final report to be released as a follow-up.

Wade AuCoin

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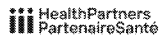
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Energy Literacy Benchmark Study for Atlantic Canada

*Creating a sustainable and growing energy sector supported by Atlantic
Canadians to enable a smooth transition toward a carbon neutral future.*

Final Report and Recommendations
By: Atlantica Centre for Energy
December 16, 2024

APRI Disclaimer

This report is funded by the Atlantic Canada Opportunities Agency (ACOA) under the Atlantic Policy Research Initiative, which provides a vehicle for the analysis of key socioeconomic policy issues in Atlantic Canada. The views expressed in this study do not reflect the views of ACOA or of the Government of Canada. The authors are responsible for the accuracy, reliability and currency of the information.

Background

The Atlantica Centre for Energy is a not-for-profit organization representing most of the largest employers, energy producers, distributors, and consumers of energy in Atlantic Canada. The Centre also works closely with governments across the region, as well as academic institutions and research organizations, among other energy sector stakeholders. The Centre's work aims to encourage sustainable growth related to energy sector opportunities in Atlantic Canada.

A key mandate of the organization is to improve energy literacy across Atlantic Canada. Energy literacy can be broadly defined as “an understanding of the nature and role of energy in the universe and in our lives” (US Department of Energy), but perhaps can be more practically thought of as the understanding and knowledge of the various types of energy available currently (and those that might be in the future).

The Atlantica Centre for Energy and its member organisations see energy literacy as a key step to enable the best path possible to transition to a clean energy future. The Centre believes that, by improving energy literacy levels, Atlantic Canadians can save money and reduce emissions, while simultaneously growing the energy sector and the businesses that rely on it.

As such, the Centre undertook the *Energy Literacy Benchmark Study for Atlantic Canada* to determine a baseline level of what Atlantic Canadians and small-and medium-sized business (SME) operators understand about energy and the energy sector. By first understanding where any gaps in energy literacy may exist, energy-sector stakeholders can take more informed approaches to improve energy literacy levels.

To determine an energy literacy baseline for the region, the Centre worked with Narrative Research to conduct three separate studies: a *General Public Energy Literacy Benchmark Study*; *In-depth Interviews of Atlantic Canadian Businesses*; and, a *Business Energy Literacy Benchmark Study*. This Final Report identifies key observations and takeaways from the three studies, primarily in reference to the quantitative survey of the General Public, and proposes recommendations for governments, utilities and other stakeholders from across the region to help improve energy literacy levels. The Appendices in this Final Report also include the Centre's cross-jurisdictional scan of existing energy literacy resources in Atlantic Canada.

Finally, it is important to acknowledge that the *Energy Literacy Benchmark Study for Atlantic Canada* would not have been possible without the support of the Centre's membership organizations, time and experience shared by dozens of sectors in and outside of the regions' energy sector, and financial contributions from the Atlantic Canada Opportunities Agency.

Energy Literacy

Atlantic Canada is a major user and exporter of energy, with potential for both to increase as the region transitions its energy systems and energy sector. It is imperative for the public to be informed and engaged on energy issues, especially during the region's transition to net zero by 2050.

Atlantic Canadians must become much more energy literate. Looking at publicly available data, the University of Calgary's School of Public Policy published a study in 2016 on the rates of energy literacy across provinces. Results of this study were disappointing, as nearly half of the groups surveyed answered the test questions incorrectly, and the level of perceived knowledge was overconfident¹.

The Atlantica Centre for Energy and its member organisations see energy literacy as a key step to enable the best path possible to transition to a clean energy future.

Research Methodology

The *Energy Literacy Benchmark Study for Atlantic Canada* was conducted in four parts to understand the level of knowledge as it relates to energy in the Atlantic region.

- 1. Cross-jurisdictional scan of energy literacy resources:** The Atlantica Centre for Energy conducted a scan using online research to determine the existing energy literacy initiatives, publications, programs and sources available to Atlantic Canadians. [Appendix A: Energy Literacy Table of Educational Programming](#) details the results by organization, province, topic, and audience. [Appendix B: Energy Literacy Topics by Region](#) visually demonstrates gaps in literacy programming by topic, region and audience.
- 2. A survey of the general population:** A total of 1,224 surveys were completed with 415 residents in New Brunswick, 407 in Nova Scotia, 256 from Newfoundland and Labrador and 146 from Prince Edward Island. The survey was available in both English and French and was conducted between June 12 and 19, 2024. Results were weighted by age, gender and provincial population to reflect the relative population of each province and in aggregate for the Atlantic Region. As a non-probability sample, a margin of error is not applied to results. The average completion time was 14 minutes. A full report, released publicly on October 15, 2024, can be found on the [Atlantica Centre for Energy website](#). [Appendix C: General Public Energy Literacy Benchmark Study](#) includes both English and French copies of the report prepared by Narrative Research.
- 3. One-on-one interviews:** A total of 30 in-depth interviews were conducted with business owners and senior managers across Atlantic Canada. Responses from the in-depth interviews helped inform question development for the broader online survey of business owners and senior managers. Each interview lasted 25 to 30 minutes and covered a range of energy-related topics. Potential respondents were identified by Atlantica Centre for Energy and represented small and medium businesses in a wide range of industries. These

¹ Date Eisler, "Energy Literacy In Canada: A Summary," The School of Public Policy, University of Calgary, January 2016, <https://www.policyschool.ca/wp-content/uploads/2016/03/energy-literacy-canada-eisler.pdf>

businesses were selected at random and had no previous affiliation with the Atlantica Centre for Energy. Please see [Appendix D: Energy Literacy Business In-Depth Interviews Report](#) provided by Narrative Research.

- 4. A survey of small and medium-sized business leaders:** The business survey was also conducted using an online survey. At least eleven organizations with various types of business members agreed to distribute a link to the online survey to their membership. Organizations included several Chambers of Commerce in each Atlantic Province as well as business associations and through targeted LinkedIn advertising. Potential respondents were asked if they were involved in decision making for their organization and only those answering yes continued with the survey. This type of sampling is considered a convenience sample and thus, no margin of error is calculated. Despite strong cooperation from the organizations that were approached to distribute the survey links, the results in terms of completed interviews have to be considered very low. Only 77 surveys were completed even though the survey was available for seven weeks from September 11 to November 1, 2024. Please see [Appendix E: Business Survey Report](#) provided by Narrative Research summarizing the responses.

Cross-jurisdictional scan

In summary, energy literacy initiatives in Atlantic Canada tend to focus on climate-related issues for grade-school ages, and energy efficiency for utility customers. Each province has a select number of not-for-profit groups and initiatives that create curriculum to be used in kindergarten to grade 12 classes, focused on general literacy around climate change and sustainability.

Based on research done by the Centre, energy and the transition to cleaner energy sources is not a major focus for K to 12 audiences, nor is energy efficiency. There has been some work done to bring these organizations together to provide the same content across Atlantic Canada, though these initiatives typically only last a number of years due to funding constraints. One example of this is [Youth Climate Action Now](#).

While New Brunswick, Newfoundland and Labrador, and Nova Scotia cover career opportunities in some programming, the careers discussed depends on the types of energy produced in each province. Once students begin their post-secondary journeys, support from these organizations ceases. The Atlantica Centre for Energy received funding from Natural Resources Canada through the Clean Fuels Awareness Program and the Council of Atlantic Premiers through the Atlantic Workforce Partnership to develop online resources specifically targeted at post-secondary students in STEAM programs in 2023-24 called Fuel 4 the Future. However, there is no ongoing financial support and therefore the website with interactive learning modules and career profiles specifically available in Atlantic Canada will cease to continue in January 2025. A final report on the success of the program can be found on the [Fuel4Future.ca](#) website.

There is an overall lack of resources available for post-secondary students interested in entering the energy sector workforce in Atlantic Canada. Industry recognises there will be workforce

constraints to support the energy transition in Atlantic Canada², however there is a gap in programming targeted at the next generation of workers.

Much of the energy-related content for the general public centres on energy efficiency and climate change, produced by provincial utilities. When comparing these resources, some are more robust than others, meaning not all Atlantic Canadians are receiving the same quality of energy information. The same can also be said for resources that inform the public about renewable energy sources. This type of content can also be biased toward the organization publishing the resources. With the number of opposing viewpoints on the subject matter, it is up to the public to decide who to trust.

It was not entirely surprising that ‘an energy provider’ (26%) and ‘non-government organizations’ (21%) ranked relatively low compared to ‘government sources’ (44%) when the general public was surveyed on which sources of energy-related information they trust most. (Appendix C, Slide 10)

In order to best support the energy transition, the public must learn not only about what clean energy sources are being employed in their own province but also how those production methods work. Furthermore, not every province has the same energy mix. For example, the energy mix for Prince Edward Island looks much different than the energy mix for Newfoundland and Labrador. With the existing resources varying from province to province, it will take coordination from various parties to implement an effective energy literacy strategy.

The Centre also found that natural gas is not discussed among energy literacy resources in Atlantic Canada, despite both New Brunswick and Nova Scotia using natural gas for homes, businesses and electricity generation (see Appendix B). Existing natural gas systems and infrastructure will be used in the energy transition and lead to blending of renewable natural gas and clean hydrogen; there is an opportunity to educate the general public on the benefits of natural gas. The companies responsible for distributing natural gas in Atlantic Canada offer limited information on the subject, but a larger discussion from an unbiased source would benefit energy literacy in the region.

Energy literacy information gaps and recommendations:

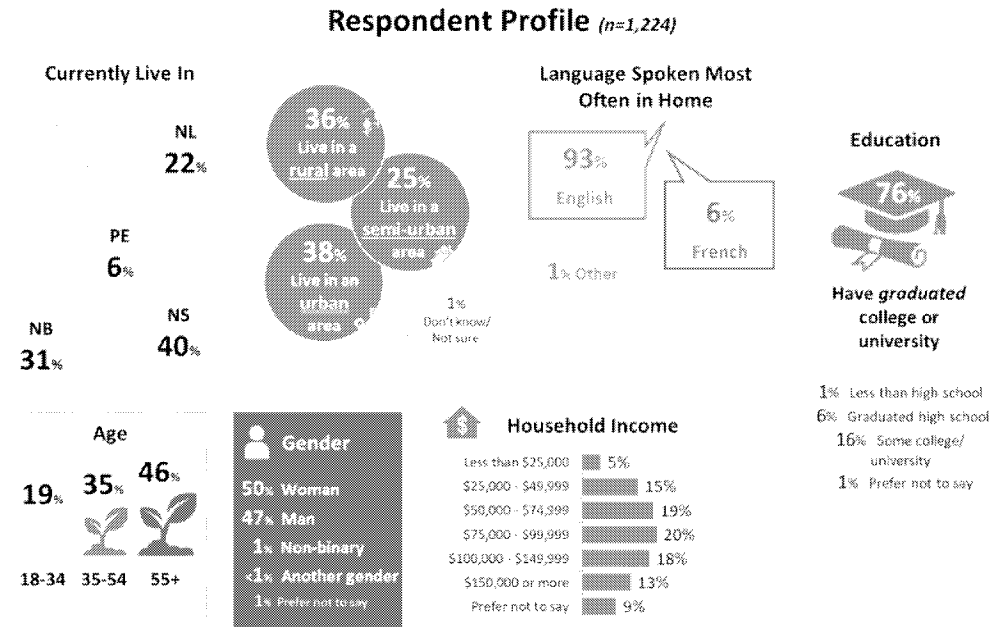
- Development of specific resources for post-secondary students interested in entering the energy sector workforce in Atlantic Canada.
- Discussion of clean energy sources in each province including energy efficiency, renewable energy generation with and for the general public.
- Produce and promote unbiased resources about natural gas as a transition fuel.

Results of General Public Energy Literacy Benchmark Study

The *Energy Literacy Baseline Survey* was conducted by Narrative Research to gain a measured understanding of energy literacy in all four Atlantic provinces. A total of 1,224 interviews were completed with residents in New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island. Notably, the education level of respondents in the study differs from the average in

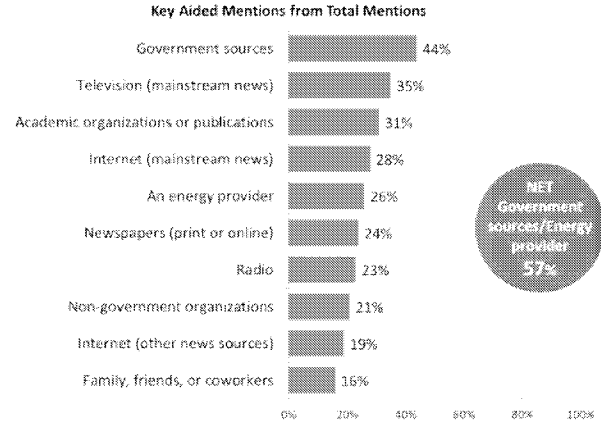
² “Atlantic Canada’s Energy Workforce: Regional Labour Market Outlook to 2035”, Careers in Energy, February 2024, https://careersinenergy.ca/wp-content/uploads/2024/03/FINAL_CIE-Atlantic-Outlook_Mar-18.pdf

Atlantic Canada. According to 2021 Census data from StatCan, 54 per cent of Atlantic Canadians have graduated college or university, whereas 76 per cent of respondents of the Baseline Survey were at the same educational level³. (Appendix C, Slide 30)



The study found that a wide variety of sources are relied upon for energy-related information, with government sources at the top of the list for the most trusted sources. When asked how much energy-related information they have seen or heard in the past few months, 67 per cent of respondents have seen at least some, while 37 per cent of respondents have seen or heard a lot. Looking more closely at those who have seen or heard a lot of information dealing with energy, respondents tended to be in the 55+ age group, had higher incomes, and were men. (Appendix C, Slide 8)

Most Trusted Source of Energy-Related Information



Atlantic Canadians rely most on mainstream news sources for their energy-related information, though the delivery method ranges from the internet (48%) to television (40%). (Appendix C, Slide 9) Government sources and energy providers are each noted by approximately one third of respondents. There are also demographic differences related to the sources of information. Those over the age of 55 prefer mainstream news on television, the middle-aged group (35 to 44) prefer other internet news sources, and the 18 to 34 group are most likely to mention social media.

³ Statistics Canada. Table 98-10-0386-01. Highest level of education by geography: Canada, provinces and territories

When it comes to the most trusted source of energy-related information, government sources, mainstream news via television, and academic organizations/publications top the list. Energy providers were mentioned by approximately one fourth of respondents, making the net number mentioning government or energy providers 57 per cent. (Appendix C, Slide 10)

In-depth analysis of *General Public Energy Literacy Benchmark Study* data

Building off the assessment provided by Narrative Research, the Centre conducted additional analysis of findings by each province and by specific demographics to determine high-level noteworthy observations. The Centre also completed a cross-analysis of data from the general population survey to better understand what impacts, if any, took place as residents consumed more energy-related information and were deemed more knowledgeable based on responses to the principal test question in the survey.

In the cross-analysis, the Centre interpreted the results of each question based on how much information respondents consumed (broken into three levels: slightly, somewhat and highly informed). (Appendix C, Slide 8)

Separately, the Centre also analysed each question based on how correct respondents were on the primary test question (also broken into three levels: slightly, somewhat and highly knowledgeable). (Appendix C, Slide 17).

There was a strong correlation between how informed respondents were and how correctly they answered the principal test question. With the exception of nuclear generation and hydro (both of which were restricted to specific provinces), respondents who were considered highly informed scored between 11 and 19 per cent more accurate than those who were not or a slightly informed. (Appendix C, Slide 17)

When it comes to support for building new energy generation in the next ten years, this informed gap showed 11 per cent more support. Similarly, the gap between high knowledge and low knowledge showed 14 per cent more believe it was 'critically important' to build new generation. (Appendix C, Slide 19)

When asked whether different energy sources and technologies were considered 'environmentally friendly,' informed and knowledgeable respondents were more often correct. Responses for 'cost-effective' perceptions were relatively more accurate for those more informed and knowledgeable as well, with an exception for smart grid technologies, in particular. (Appendix C, Slides 21 and 22)

When asked in an unaided question: 'What type or types of energy source development would you not support close to your community?', more informed and knowledgeable respondents showed more opposition to different technologies and energy sources. However, this is attributed to informed and knowledgeable respondents being more certain in their responses, as the 'Unsure/Don't know' response dropped significantly more than opposition increased. (Appendix C, Slide 23)

When considering top priorities for new energy developments, most responses were consistent across levels of energy-related information consumed and knowledge-levels. However, it is worth

noting that those more informed and knowledgeable prioritized 'Increasing the reliability of the energy supply' 13 per cent and 21 per cent more respectively. However, they prioritized 'Job creation' 5 per cent and 11 per cent less than uninformed and unknowledgeable respondents. (Appendix C, Slide 24)

For more complicated questions, there were little differences between how knowledgeable respondents were and how correctly they answered. For example, when asked if they agree or disagree with "My province uses more than twice as much energy from refined fossil fuels than from electricity," informed and knowledgeable respondents were about as likely to answer correctly as those uninformed and unknowledgeable. (Appendix C, Slide 2)

Key takeaways from the *General Public Energy Literacy Benchmark Study*

Key takeaways from the preliminary analysis of the three surveys and the cross-analysis include:

- Atlantic Canadians and businesses, on average, have a basic understanding of the energy used in the region. Respondents' self-assessment of energy knowledge was relatively consistent with their tested knowledge.
 - However, even more knowledgeable respondents lack an in-depth understanding of energy sources and technologies, and particularly the energy sector;
- Most Atlantic Canadians get their energy-related information from mainstream news sources but found governments as the most trusted source for information;
- Respondents who consumed more information believed they knew more;
- Similarly, respondents who consumed more information were more knowledgeable;
- Respondents with a higher level of educational attainment were more likely to be knowledgeable;
- The majority of Atlantic Canadians support building new energy generation, especially for cleaner projects.
 - More informed and knowledgeable respondents were more often correct about which energy sources and technologies are 'environmentally friendly' and 'cost-effective;'
- A minority of Atlantic Canadians oppose any type of energy development in their community.
 - More informed and knowledgeable respondents were certain about which developments they oppose, but it is unclear if more information or knowledge impacts support for different energy developments; and,
- Reliability is the top consideration for new energy developments, especially for those more informed and knowledgeable.
 - Cost is less of a priority, but when tested, a majority of Atlantic Canadians appear to be very sensitive to cost increases.

Results and key takeaways from *In-depth Interviews of Atlantic Canadian Businesses*

It is important to note that although the businesses participating in the one-on-one interviews were selected at random, the survey sample of 30 is not sufficient to draw concrete conclusions from. However, the one-on-one interviews were helpful to help understand which questions to ask small- and medium-sized business owners in the online survey to follow, and to explore what, if any, differences were observable based on the format in which respondents were able to answer.

Findings and takeaways from the in-depth interviews of Atlantic Canadian Businesses align with those from the Business Benchmark Study and General Public Survey in areas of perceived knowledge, support for new generation, and several other priority areas. (Appendix D, Pages 2 and 3) (Appendix E, Slides 14, 15, 19 and 24)

Of note, it is interesting to observe that energy issues relating to costs were more common in the phone discussion opposed to the private online surveys. In particular, the lack of ability to plan their business around expected future energy costs was a concern. (Appendix D, Pages 3 and 4)

The Centre believes this difference is worth exploring in future surveys as utility and other sector stakeholders believe cost is a higher priority than the general surveys revealed.

Another area of note was relating to how information could be improved to be viewed as more trustworthy: “information needs to come from a source not perceived to have vested interests.” (Appendix D, Page 2)

Results and key takeaways from *Business Energy Literacy Benchmark Study*

The findings and key takeaways from the *Business Energy Literacy Benchmark Study* are limited by the number of responses to the survey. The Centre agrees with Narrative Research that this Study’s findings should be treated as qualitative, not as directive.

In particular, the Centre notes the relatively high percentage of responses from businesses principally operating in the energy sector (17%). (Appendix E, Slide 26) It is also important to note that as most respondents were contacted through industry associations, information especially regarding how and where businesses obtain energy-related information from may also be skewed.

With these limitations in mind, the key takeaways from the Business Study include:

- It is likely that SME operators consume more energy-related information than the general public;
 - Business or trade organizations likely play an important role in obtaining trustworthy energy-related information
 - Information obtained from governments is considered the most trustworthy, similar to the general public;
- On average, SME leaders believe they know slightly more about energy across the region than the general public.
 - On average, test questions confirmed this assumption that SME operators know more about energy, on average;

- Along with the general public, Atlantic Canadian SMEs who completed the survey also strongly support building new energy generation, especially for cleaner projects;
 - There was no majority of opposition to any type of energy development in the region;
- Emission reduction, efficiency programs and business opportunities are top areas of interest; and,
- SME leaders believe the energy sector makes a critically important contribution to their province's economy.

Recommendations

The findings of the *Energy Literacy Benchmark Study* for the general population demonstrates that the more energy-related information people consume, the higher their surface-level of understanding is on the subject. However, when the test questions become more challenging, most respondents answered incorrectly. “Knowledgeable” and “informed” respondents were more often correct, but even the majority of these categories were wrong; these results were consistent across Atlantic Canada.

With the varying energy literacy efforts ongoing throughout Atlantic Canada, there exists an opportunity to work collectively with aligned messaging to educate the general population. The Centre suggests efforts could be in the form of a marketing campaign, agreements between actors in the energy space, or other forms of long-lasting partnerships.

Provincial governments

The survey of the general public found that governments are the most trustworthy source of energy-related information. As a result, it is logical that provincial governments, specifically their education, post-secondary education, and energy departments, lead efforts to improve energy-related information resources for Atlantic Canadians, and to lead educational campaigns to improve energy literacy rates.

Information gathered in the cross-jurisdictional scan of energy resources show current gaps in educational resources and programs available for different demographics in each province. The Centre recommends that provincial governments work quickly and collaboratively to develop new resources to fill in existing gaps to ensure all residents have access to factual, unbiased, concise and approachable energy-related information in different formats including digital print, physical print and audio or video.

Materials should be developed for all sources of energy deployable in the region, relevant technologies such battery energy storage systems (BESS) and carbon capture utilization and storage (CCUS), and other important concepts such as ‘net zero’ and ‘energy wallet.’ Importantly, no energy source or technology is without potential drawbacks, so any information developed should weigh the benefits and challenges, on a relative basis.

The Centre recommends provincial governments take a ‘some is better than none’ approach where information is released as it is developed, opposed to launching a comprehensive resource once all pieces are finalized. Furthermore, provincial governments should avoid ‘reinventing the wheel,’ and instead share information with the other Atlantic provinces and borrow information already published by other governments including from the Canada Energy Regulator, Natural Resources Canada, the United States Department of Energy, and the United States Energy Information Administration.

To maximize efficiency and effectiveness, the Centre believes the four Atlantic provinces should consider leading energy literacy efforts from a central body such as the Council of Atlantic Premiers.

The Centre also recommends each provincial government establish a central contact point for community leaders, media, and other specified stakeholders to help answer technical energy questions as they arise. It is especially important for decision makers and those disseminating information to the larger public to have access to the most accurate and unbiased information possible.

Engagement with community stakeholders

Engagement and education are at the core of any successful energy partnership. There is a relatively long history of energy and resource project failures where adequate community and stakeholder engagement has not taken place. While this is not a problem exclusive to Atlantic Canada, it is interesting to note that these concerns have persisted in the region despite the General Public Survey showing no majority of residents oppose any type of energy development near their community. (Appendix C, Slide 23) It is also important to recognize that energy utilities and developers in the region are placing increasing priority on early engagement with communities and Indigenous rightsholders when developing new energy projects.

However, there is a lack of consistency across the region for how and when energy utilities and developers should engage with different stakeholders, and how and where different projects can be developed in communities across Atlantic Canada. For example, there are no harmonized setbacks to develop wind turbines.

The Centre recommends governments at all levels across the region take action to improve consistency in developing energy projects, including with engagement efforts. Furthermore, the Centre recommends that, where appropriate, weigh feedback and the level of support for energy developments beyond the immediately impacted area. For example, a new grid-scale battery project that is designed to benefit an entire provincial grid, should also consider the level of public support from outside its adjacent communities. It is important to recognize the level of support for developing new energy sources across the region, as observed in the survey of the general public. When surveyed, 61 per cent of respondents believed it is critically important their province builds new sources of energy generation in the next ten years. Another 31 per cent believed it was important, but not critical. (Appendix C, Slide 19)

Energy utilities and developers

While many utilities and energy companies have information available on their websites and do community engagement and public awareness campaigns about their products, services and potential developments, they are viewed as less trustworthy than governments.

For project developments specifically, utilities and energy developers should engage in early, thorough public engagement in communities near to their potential projects. Community engagement should also include local Indigenous engagement. More generally, the Centre recommends that energy utilities and companies support provincial departments developing educational tools and resources to help further energy literacy campaigns and resources. More specifically, considering business feedback, the Centre recommends that utilities provide more

forward-looking energy cost forecasts to help businesses plan and invest as accurately as possible. (Appendix D, Pages 3 and 4).

Media

Mainstream media is the most common source of energy-related information the majority of Atlantic Canadians. Accordingly, the Centre believes mainstream media has an important role to play in public education. To help address potential concerns raised during in-depth interviews with businesses, the Centre encourages all media members to share different viewpoints when developing articles, and to weigh differing views accordingly. (Appendix D, Page 2)

Government, communities, First Nations and industry should engage with media to provide them with access to factual information and educational resources and opportunities. To ensure opinions from stakeholders interviewed are as unbiased and factual as possible, the Centre recommends interviewing uninvolved experts when possible.

Public

Energy is complicated but impacts every Atlantic Canadian. From day-to-day energy expenditures such as gas and utility bills, to food, home heating and equipment used, energy is involved in nearly every aspect of life. Energy impacts the quality of lives, the economy and the climate across Atlantic Canada.

The Centre encourages Atlantic Canadians to read more about energy. Specifically, those seeking to learn more are encouraged to consume information that is unbiased, and which may challenge personal opinions, and to encourage others to do the same. It is clear from the unaided question in the public survey that fewer than 30 per cent of Atlantic Canadians are opposed to any one type of energy project in their community. (Appendix C, Slide 19) Therefore, the public should be encouraged to speak out in favour of or in opposition to energy plans and potential developments when comfortable with their level of knowledge.

Atlantica Centre for Energy

Given the lack of trust the general public place on gaining energy-related information from NGOs, the Centre believes it is best positioned to support energy literacy efforts by continuing to share data gathered from the Energy Literacy Benchmark study with interested stakeholders to help improve their respective public engagement efforts and to develop better information resources. The Centre's efforts should also include:

- Releasing updated Energy Maps for New Brunswick, Nova Scotia and Prince Edward Island (the Newfoundland and Labrador map was recently released);
- Continue developing the 101 educational series and launch resource hubs for electricity and fuels; and,

- Continue running the Energy Fundamentals for Leaders program through the University of New Brunswick and explore opportunities to expand the program to additional audiences and provinces.

Further research

As the purpose of the Energy Literacy Benchmark Study for Atlantic Canada was to first establish a baseline for what Atlantic Canadians and local small-and medium-sized businesses understand about energy, the scope of the findings too are limited to a baseline.

The Centre believes that several of the questions covered in the survey of the general public should be repeated on a regular basis to see what changes are observed to better understand if public outreach methods are effective.

The Centre also believes the topics covered in the original study could be expanded to provide a more insightful understanding of what Atlantic Canadians believe and understand about energy, the energy transition and the energy sector.

Potential areas for further research include:

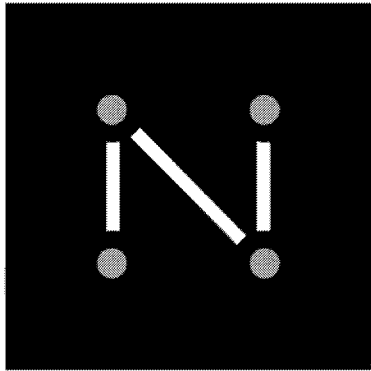
- Exploring the relationship between how residents' support or oppose different energy sources and developments and how that changes as they become more informed and knowledgeable about the subject;
- How do the sources of someone's energy-related information influence their perspectives and knowledge about the subject?;
- How effectively do different the public awareness strategies influence someone's perspectives and knowledge about the subject?;
- What triggers may exist to move residents to actively engage in support of or opposition to energy developments?; and,
- Are SMEs and/or residents more open about energy cost-sensitivity when discussing issues in a one-to-one interview compared to during a private survey?

Thank you

Throughout the development of the benchmark study, many organizations and individuals contributed by providing feedback on the process, the questions and the findings. A sincere thank you to the following people and organizations for contributing more than 100 hours of in-kind work:

- Mi'gmawe'l Tplu'taqnn Inc
-
- Opportunities New Brunswick
- Laurentis Energy Partners
- Port of Belledune
- Irving Oil
- Irving Oil
- Irving Oil
- Irving Oil
-
- PEI Energy Corporation
- Eastward Energy
- Fundy Engineering
- Mi'gmawe'l Tplu'taqnn Inc
- UNB
- Dalhousie University
- Saint John LNG
- EnergyNL
- Nova Scotia Department of Natural Resources and Renewables
- UNB Centre for Nuclear Energy Research
- Liberty
- Brunswick Pipeline/Emera NB
- Nova Scotia Department of Natural Resources and Renewables
- New Brunswick Department of Energy and Resource Development
- Natural Forces
- New Brunswick Conservation Council
- Atlantic Hydrogen Alliance
- NB Power
- Atlantic Chamber of Commerce
- Kinectrics
- Saint John Energy
- ARC Clean Technologies Canada
- Cape Breton Regional Chamber of Commerce
- Atlantic Chamber of Commerce
- Fredericton Chamber of Commerce
- Labrador North Chamber of Commerce
- Greater Charlottetown Chamber of Commerce

- Canadian Federation of Independent Business
- Marine Renewables Canada
- PEI Energy Corporation



NARRATIVE
RESEARCH

Business Energy Literacy Benchmark Study

November 2024

Prepared for:

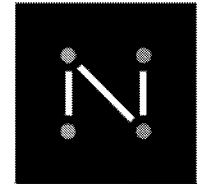




APRI Disclaimer

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NARRATIVE
RESEARCH

Background and Methodology





Background and Methodology

Atlantica Centre for Energy is a not-for-profit organization representing most of the largest employers, energy producers and distributors, and consumers in Atlantic Canada. The Centre is engaged in sustainable growth related to energy opportunities in Atlantic Canada.

Earlier this year, the results of an online general public survey were released. Narrative Research was commissioned to undertake an online general population survey in Atlantic Canada. A total of 1,224 interviews were completed with 415 residents in New Brunswick, 407 in Nova Scotia, 256 from Newfoundland and Labrador and 146 from Prince Edward Island. Many of the same questions were asked in this business survey.

The business survey was also conducted using an online survey. At least eleven organizations with various types of business members agreed to distribute a link to the online survey to their membership. Organizations included Chambers of Commerce in each Atlantic Province, as well as business associations with strong representation in Atlantic Canada and through targeted LinkedIn advertising. Potential respondents were asked if they were involved in decision making for their organization and only those answering yes continued with the survey. This type of sampling is considered a convenience sample and thus, no margin of error is calculated.

Despite strong cooperation from the organizations that were approached to distribute the survey links, the results in terms of completed interviews have to be considered very low. Only 77 interviews were completed even though the survey was available for a month and a half.

Due to the small sample size (n=77), there are no demographics analyses (i.e., province) throughout the report. That said, notable differences between business respondents and the general population results (from earlier in 2024) are discussed throughout the report. Because of the small number of completed interviews, the reader is encouraged to treat this information as more qualitative and directional than definitive.



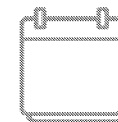
Mode
Online survey



Audience
Businesses in Atlantic Canada



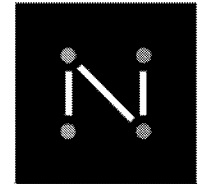
77 completes



Data Collection Dates
September 11 – November 1, 2024



Average Completion Time
12 minutes



NARRATIVE
RESEARCH

Summary of Key Findings



Summary of Key Findings

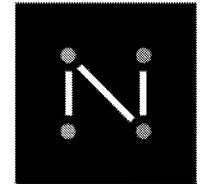
These findings come from a survey of 77 business respondents across Atlantic Canada who indicated they were involved in decision making for their organization. The survey was designed to assess energy literacy similar to a general public survey conducted earlier this year. Questions were also included on other related energy topics. Notable differences between the business and general public audiences are highlighted throughout this report.

- The research shows that the vast majority of business respondents have seen or heard information that deals with energy in the past few months. A considerably higher percentage of business respondents have seen or heard about energy in the past few months, compared to respondents from the general population survey.
- Business or trade associations, mainstream internet news, and government sources are where business respondents are most likely to receive their energy-related information. All of these are mentioned more often by the business respondents than the general population respondents.
- In terms of trusted sources; government sources, business or trade associations, and academic organizations or publications are the most often cited. Government sources was the most frequently mentioned trusted source of information among both the business and general public respondents.
- Business respondents are most interested in learning more about green power advancements, energy transition/efficiency/renewable programs, and emerging trends/strategies /opportunities, while just under three in ten business respondents said they are unsure when asked to identify energy topics of interest to them.
- When business respondents were asked how knowledgeable they feel about various energy sources used to produce electricity, only fossil fuels received high knowledge scores, with over 50 percent of respondents rating themselves as highly knowledgeable, although renewable sources of electrical generation were close behind. Uranium and tidal power saw the lowest levels of overall knowledge.
- A similar question, asking respondents about their knowledge levels on certain fuels and gases as energy sources was asked, with only refined petroleum products receiving high knowledge levels of over 50 percent. In this case, natural gas was under 50 percent at 40 percent. Hydrogen and biomass/biofuels saw the lowest levels of overall knowledge.
- Just over one-half of business respondents believe they are extremely knowledgeable of different types of energy that are used in the province(s) where their organization operates, which is much higher than the June 2024 results with the general population.
- When asked to identify types of energy used where they operate, electricity produced from fossil fuels, other renewable sources (not including hydro-electric sources), renewable hydro-electric sources, and refined petroleum products were mentioned most often and all by eight in ten or more. Hydrogen energy is named least, with 13 percent of business respondents saying it is used directly in their province.



Summary of Key Findings - Continued

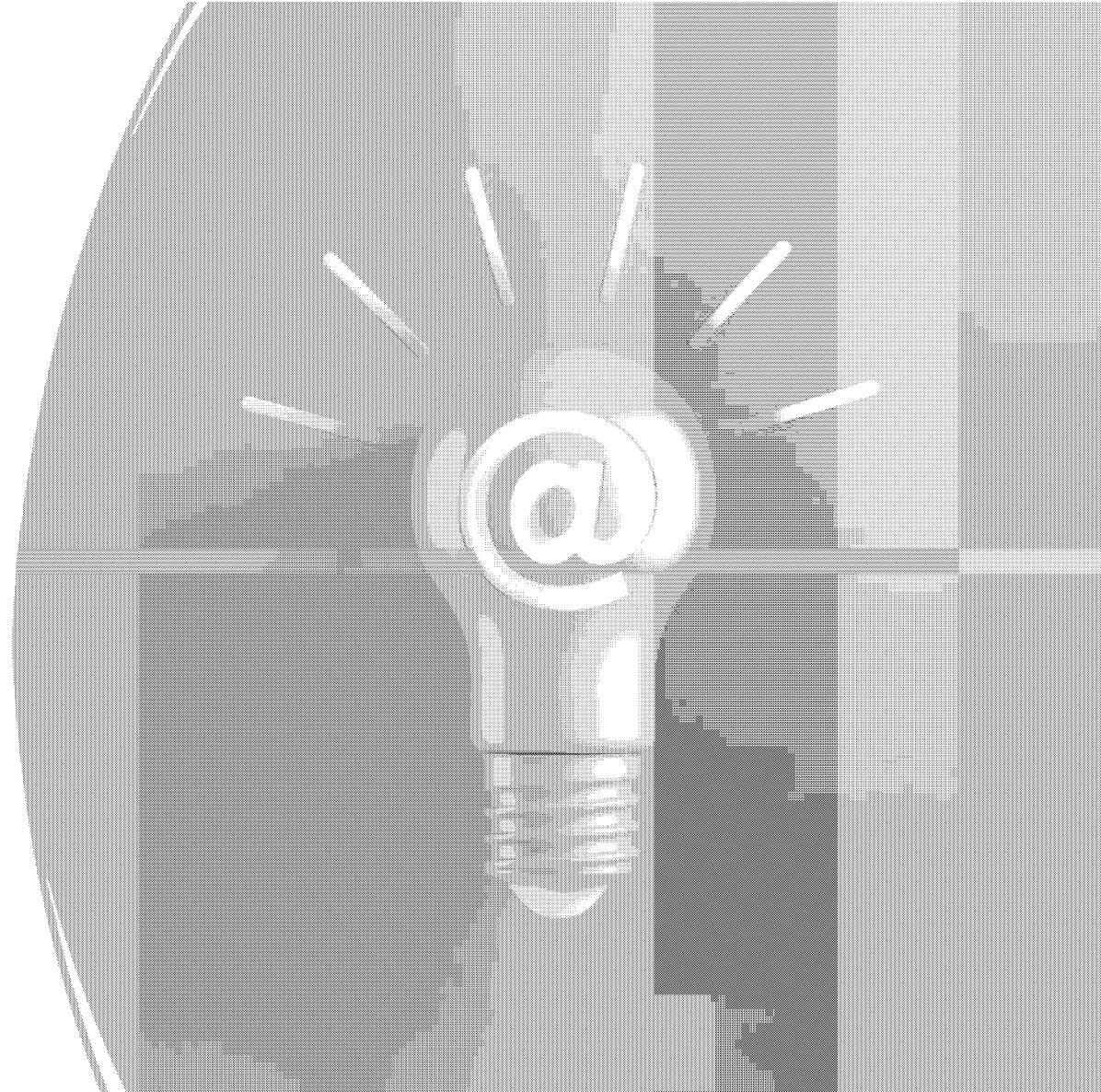
- The vast majority of business respondents agree that it is important that the province(s) in which their organization operates build new sources of energy generation in the next 10 years. This is similar to general public results except that a higher proportion of the business audience feel it is critically important.
- Similarly, most business respondents believe that it is critically important that the province in which their organization operates transition to cleaner energy sources.
- Several of the types of energy included in the survey are readily identified as environmentally-friendly by business respondents. The ones selected most were electricity produced from other renewable sources (not including hydro-electric sources), electricity from renewable hydro-electric sources, tidal power, and smart-grid technologies.
- Types of energy that are cost effective are not as widely identified, but a small majority selected electricity produced from fossil fuels, natural gas generation, electricity from renewable sources such as wind, solar and geothermal and smart-grid technologies as cost effective.
- Fossil fuel development is the most mentioned (43%) source of energy development that business respondents would fail to support near their organization's operations.
- Most business respondents agree that the energy sector makes a critically important contribution to the provincial economy in which their organization operates.
- There is some willingness to pay 15 percent more for electricity that is produced without producing greenhouse gases (two in ten strongly agree).
- A similar proportion agree (two in ten) that their prices are lower than those in Maine, but a high proportion in this case don't know (36%).



NARRATIVE
RESEARCH

Detailed Findings

Sources of Information About Energy





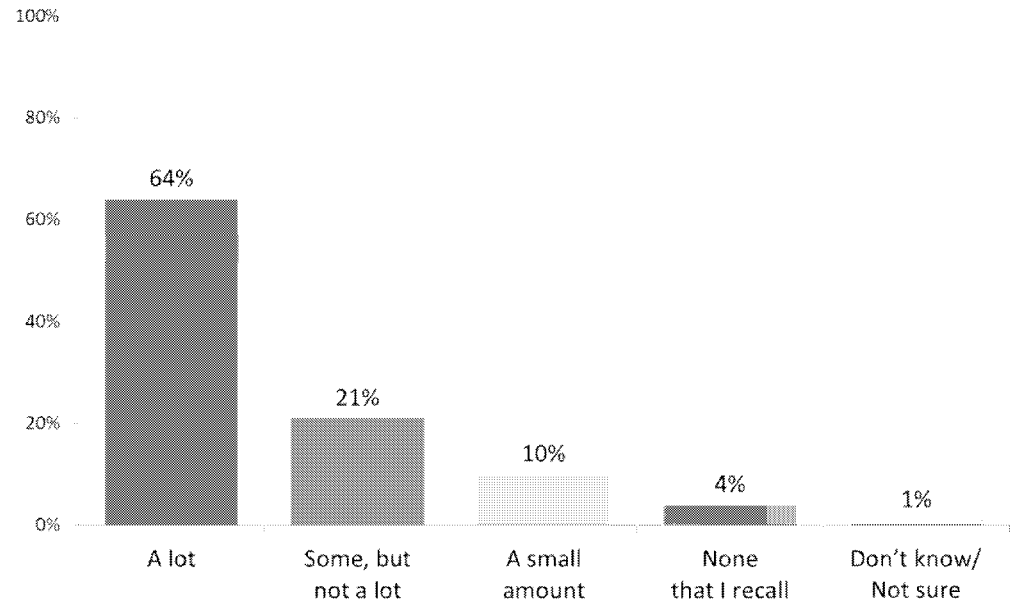
Information about Energy

The majority of business respondents have seen or heard a lot of information that deals with energy in the past few months.

While just under two-thirds of business respondents have encountered a lot of information about energy in the past few months, the vast majority have encountered some form of energy-related information during that time, whether a lot, a moderate amount, or a small amount. (Table 1)

Compared to the June 2024 results for the general population, a considerably higher percentage of business respondents have seen or heard a lot about energy in the past few months (37% versus 64%).

Amount of Information Seen or Heard about Energy in Past Few Months



Q.1: In the past few months, how much information have you seen or heard that deals with energy? (n=77)



Sources of Energy-Related Information

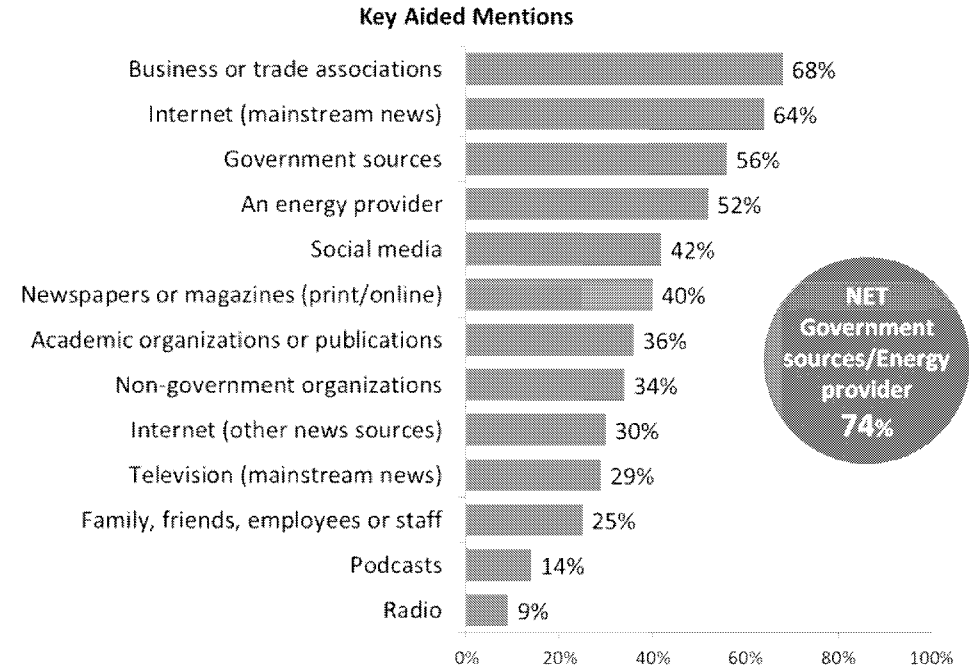
A variety of sources are noted when business respondents are asked about how their organization typically receives energy-related information, with business or trade associations and internet (mainstream news) topping the list.

Although several sources are listed, business respondents most commonly mention business or trade associations, internet (mainstream news), and government sources as typical sources from which their organization retrieves energy-related information. Radio and podcast sources are least popular, listed by fewer than two in ten business respondents.

Overall, three-quarters say their organization receives energy-related information through government sources or an energy provider. (Table 2)

Comparison to the June 2024 results from the general population survey show that business respondents are much more likely to receive their energy-related information from business or trade associations and also more likely to mention the internet, government sources, and energy providers.

Typical Source of Energy-Related Information



Q.2: Typically, where does your organization get your energy-related information from? (n=77)



Trusted Sources – Top Three Choices

Interestingly, the top three most trusted sources overall are not the same as the top three most typically used sources.

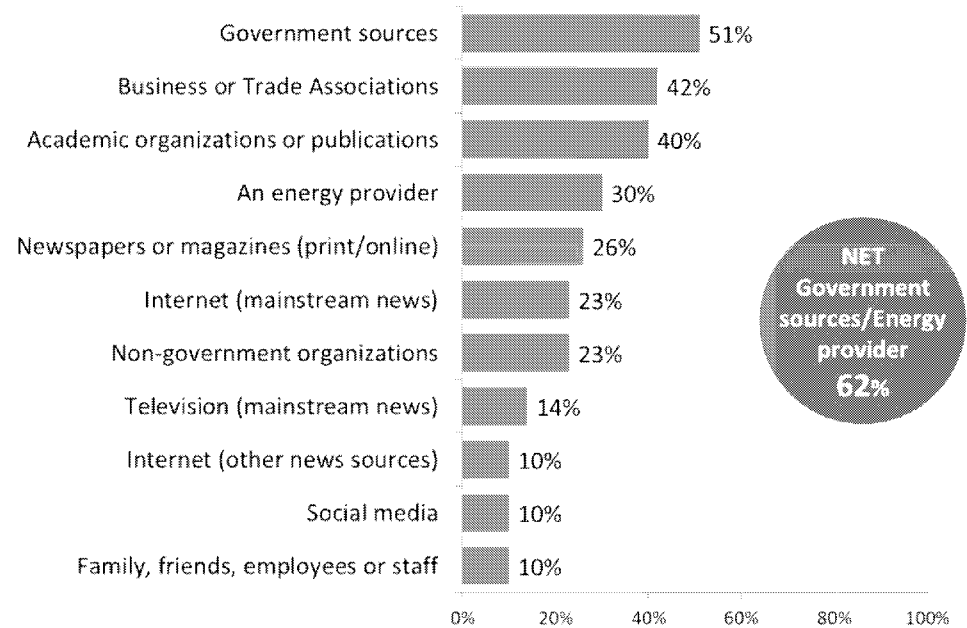
Business respondents were asked to pick the three sources of energy related information their organization finds the most trustworthy.

The three most trusted sources of energy-related information among business respondents are government sources, business or trade associations, and academic organizations or publications. The least trusted sources of information include the internet (non-mainstream/other news sources), social media, and family, friends, employees or staff. While energy providers are mentioned by three in ten and government sources are mentioned by one-half of business respondents, the NET number mentioning government or energy providers in 62 percent.

While internet (mainstream news) is listed as one of the top three typically used sources of information, far fewer list it as a trusted source of energy-related information. On the other hand, business respondents list academic organizations or publications in the top three most trusted sources of information but just over one-third list it as a source of information they typically use. That said, government sources and business or trade associations are both listed in the top three most trusted and most typically used sources of information. Government sources is selected most frequently in the business survey and was also the top choice in the general public survey conducted a few months ago. (Table 3)

Most Trusted Source of Energy-Related Information

Key Aided Mentions from Total Mentions



Q.3: Which sources of energy-related information does your organization find most trustworthy? (n=77)



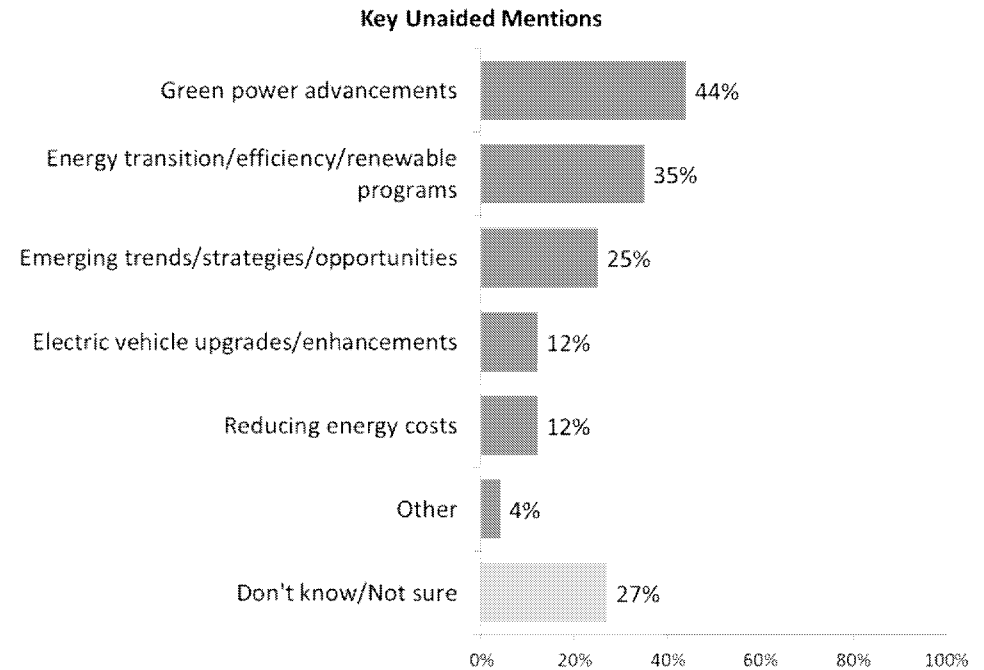
Energy Topics – Learn More About

Business respondents listed a variety of topics they would like to learn more about, with green power advancements and energy transition/efficiency/renewable programs being the most notable.

Without the aid of a list, business respondents were asked which energy topics they were interested in learning more about. The three most common topics identified are green power advancements, energy transition/efficiency/renewable programs, and emerging trends/strategies/opportunities. Some specific green power mentions include tidal and offshore wind advancements, hydropower, and solar power. Less common mentions include electric vehicle upgrades/enhancements (including marine transportation and battery storage) as well as reducing energy costs (including funding options and business supports).

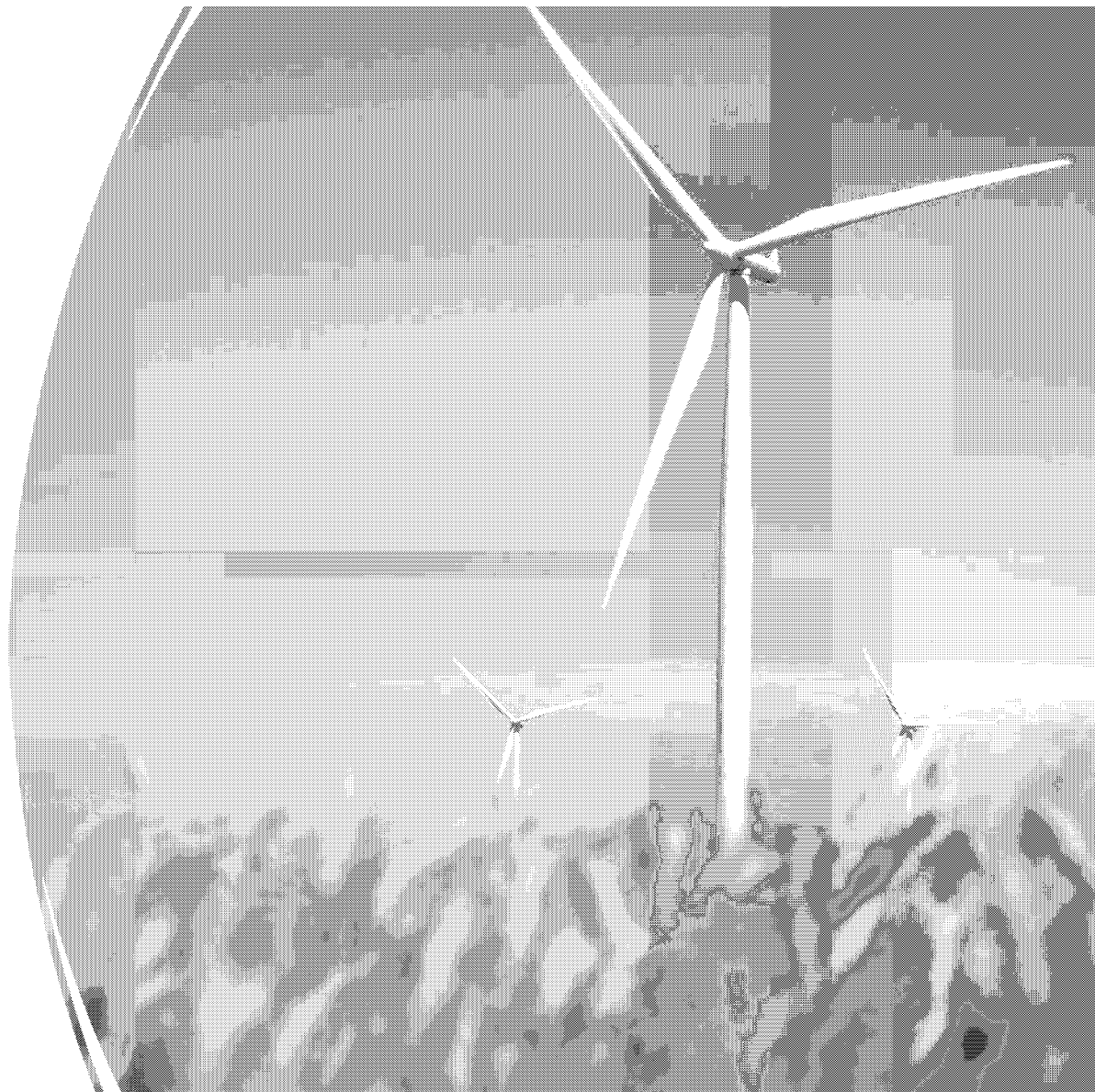
Just under three in ten business respondents said they are unsure when asked to identify energy topics that interest them. (Table 4)

Energy Topics Most Interested in Learning More About



Q.4: Still thinking about energy, what topics would you organization be most interested in learning more about. (n=77)

Energy Knowledge and Sources Used in Province





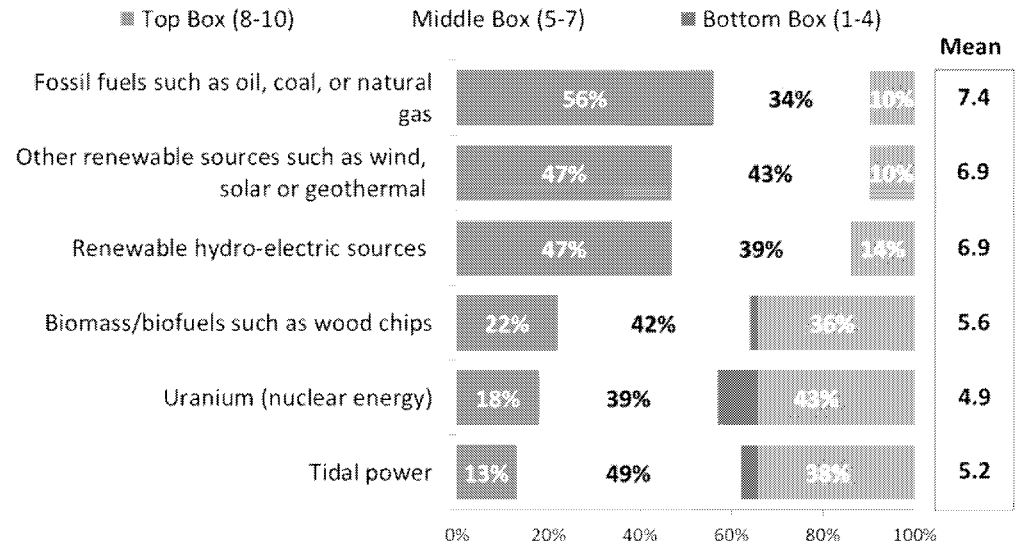
Self Assessment of Knowledge Levels

Regarding how electricity is produced using different energy sources, business respondents are most knowledgeable about fossil fuels, other renewable energy sources, and renewable hydro-electric sources of energy.

Business respondents were asked how knowledgeable they feel they are about various energy sources used to produce electricity. Looking at those who feel they have a high level of knowledge (ratings of 8-10 out of 10), only fossil fuels (such as oil, coal, or natural gas) saw high knowledge level scores of over 50 percent, but renewable sources follow close behind at just below 50 percent. Uranium (nuclear energy) and tidal power saw the lowest levels of 8 or higher ratings. (Table 5a-f)

Knowledge Level about Energy Sources Used to Produce Electricity

Ratings on a 10-pt. Scale, 10=Extremely knowledgeable and 1=Not at all knowledgeable



Q.5a-f: Electricity is produced using different energy sources. How knowledgeable do you feel about each of the following energy sources used to produce electricity? (n=77)



Knowledge Levels Continued

Regarding gases and fuels that are used for energy directly, business respondents indicate they are most knowledgeable about gasoline, diesel and other refined petroleum products and least knowledgeable about hydrogen.

The previous slide asked about energy sources used to generate electricity and this slide is for energy sources that are used directly.

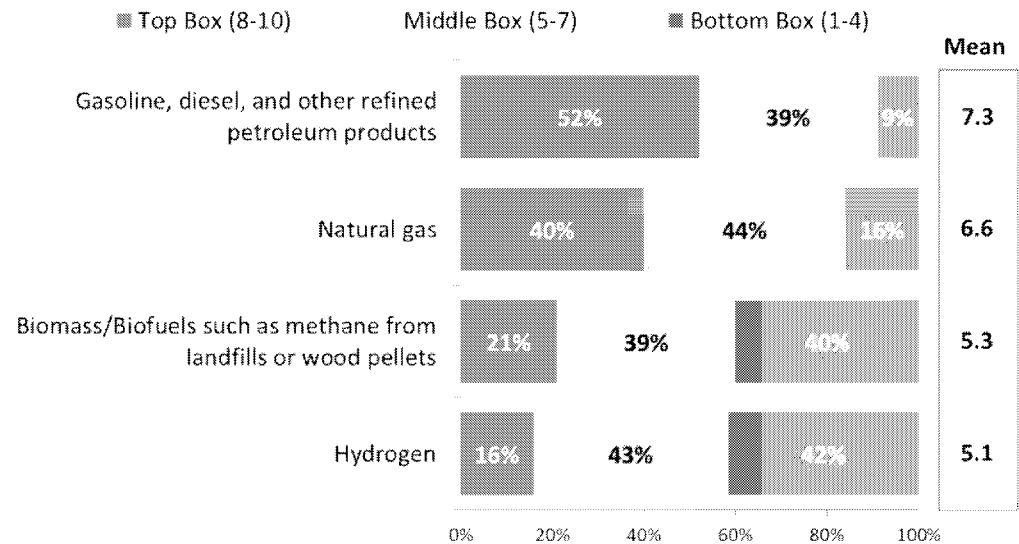
Again, fossil fuels such as gasoline and diesel are at the top of the list and evaluated similarly to the previous slide. Just over one-half rate their knowledge highly and four in ten feel they have moderate knowledge levels.

Perceptions of knowledge decrease across the following three energy sources, with four in ten having high knowledge levels of natural gas, two in ten having high knowledge levels of biomass/biofuels (such as methane from landfills or wood pellets) and under two in ten having high knowledge of hydrogen. Moderate knowledge are somewhat similar for all four fuel and gas energy sources and low levels of knowledge are highest for biomass/biofuels and hydrogen.

Business respondents consistently claimed higher levels of knowledge than did respondents in the general public survey conducted earlier in the year. (Table 6a-d)

Knowledge Level about Fuels and Gases as Energy Sources

Ratings on a 10-pt. Scale, 10=Extremely knowledgeable and 1=Not at all knowledgeable



Q.6a-d: Some gases and fuels are also used for energy directly. How knowledgeable are you about each of the following energy sources? (n=77)



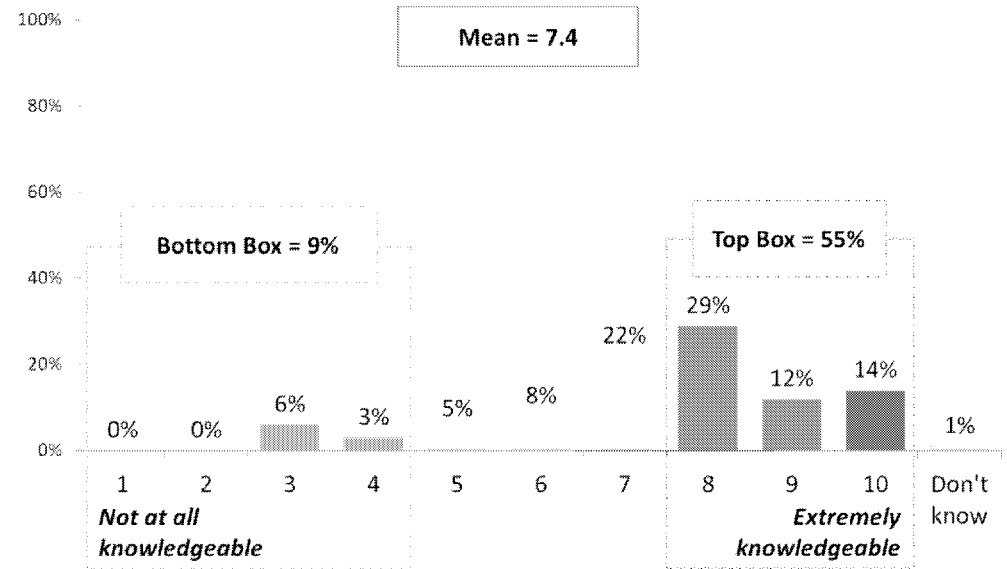
Overall Knowledge of Different Energy Types

The self-assessment of overall knowledge about different types of energy was consistent with knowledge of specific areas.

An overall assessment followed the assessment of specific energy sources and provides a reasonable summary of the other questions. Overall, just over one-half of business respondents give themselves high ratings, just over one-third give themselves moderate ratings, and approximately one in ten give themselves lower ratings. (Table 7)

Interestingly, June 2024 results from the general population survey show that business respondents give themselves higher overall levels of knowledge compared to the general population. One-quarter of the general population respondents gave themselves high ratings (compared with 55% of business respondents) and three in ten gave themselves low levels of knowledge (compared with 9% of business respondents).

Overall Knowledge Level on Different Types of Energy Used in Province



Q.7: Overall, how knowledgeable do you feel you are about the different types of energy used in your province(s) where your organization operates? (n=77) Responses of "Don't know" were excluded from the calculation of the mean



Energy Used Directly in the Province

The business respondents are more likely than the general public to identify each of the energy sources as being used in their province.

Because of the small number of respondents overall, these results were not divided by province as they were in the general public survey. However, examining the overall results across both samples shows approximately 10 to 15 percent more business respondents say each type of energy is used directly in their province. Interestingly, the order from most used to least used is almost identical across the two samples.

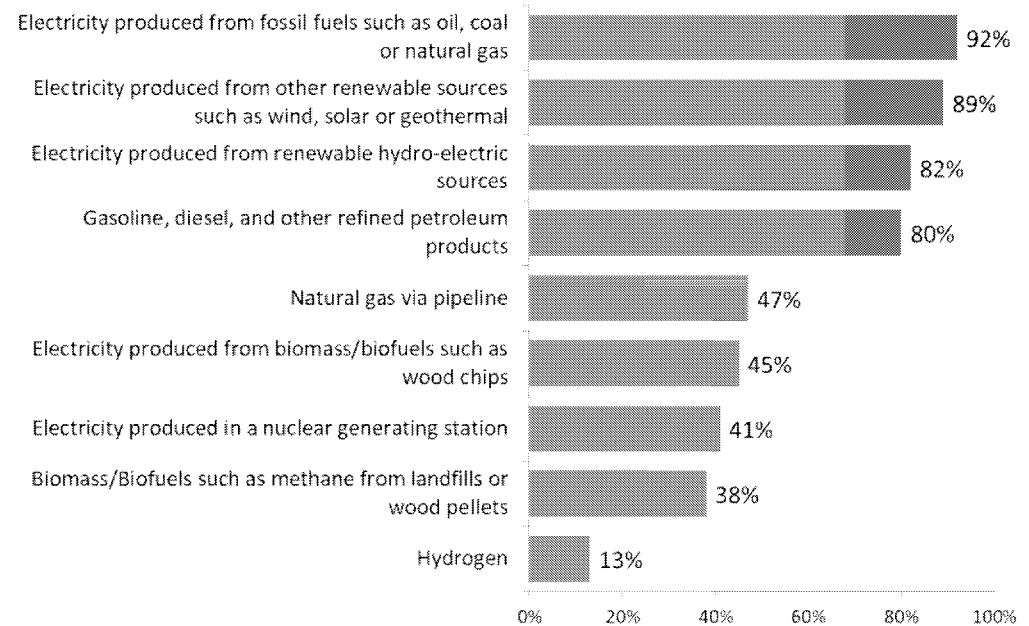
Between eight in ten to nine in ten business respondents agree that electricity produced from fossil fuels (such as oil, coal, or natural gas), other renewable sources (such as wind, solar, or geothermal – but not including renewable hydro-electric sources), renewable hydro-electric sources, and refined petroleum products (such as gasoline and diesel), are all types of energy used directly in their provinces.

Natural gas via pipeline, electricity produced from biomass/biofuels, electricity produced in a nuclear generating station, and biomass/biofuels (such as methane from landfills or wood pellets) are identified as used by around four in ten to five in ten respondent's provinces.

Hydrogen energy is used least, with 13 percent of business respondents saying it is used directly in their province. (Table 8)

Types of Energy Used Directly in Province

Total Aided Mentions Among Those Located in Atlantic Canada



Q.8: [IF 'ATLANTIC CANADA' IN Q.C] Which of the following types of energy are used directly in [province]? (n=76)

Energy Development



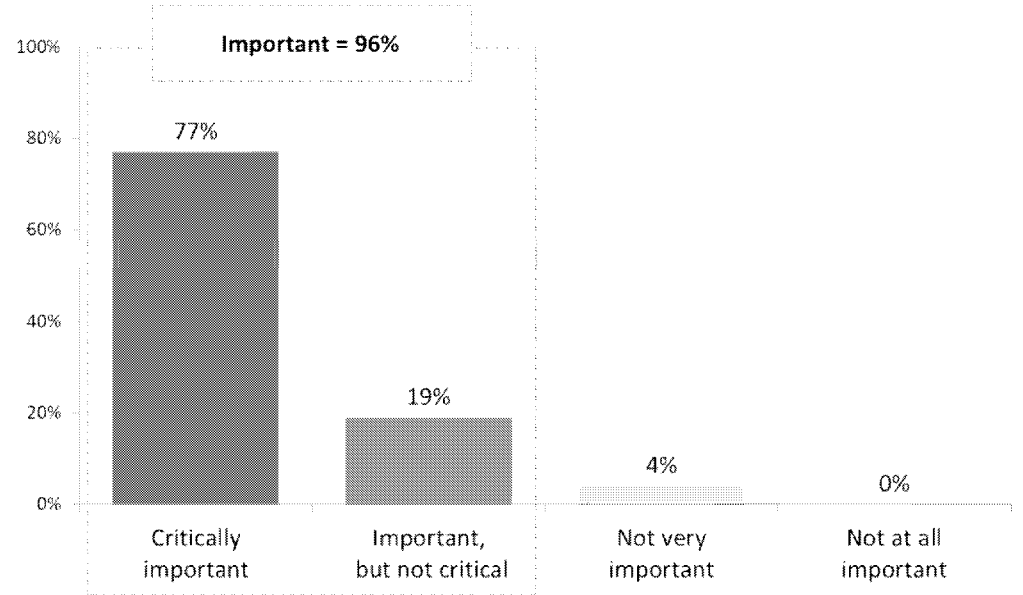


Importance of Building New Energy Generation Sources

The vast majority of business respondents believe it is important that new sources of energy be built in the next 10 years, with only 4 percent saying it is not important.

There is strong agreement among business respondents that the province in which their organization operates should build new sources of energy generation in the next 10 years. Just over three-quarters believe that this is critically important and two in ten believe it is important, although not critical. (Table 9)

Importance that Province Builds New Sources of Energy Generation in the Next 10 Years



Q.9: How important is it that the province(s) where your organization operates in builds new sources of energy generation in the next ten (10) years? (n=77)

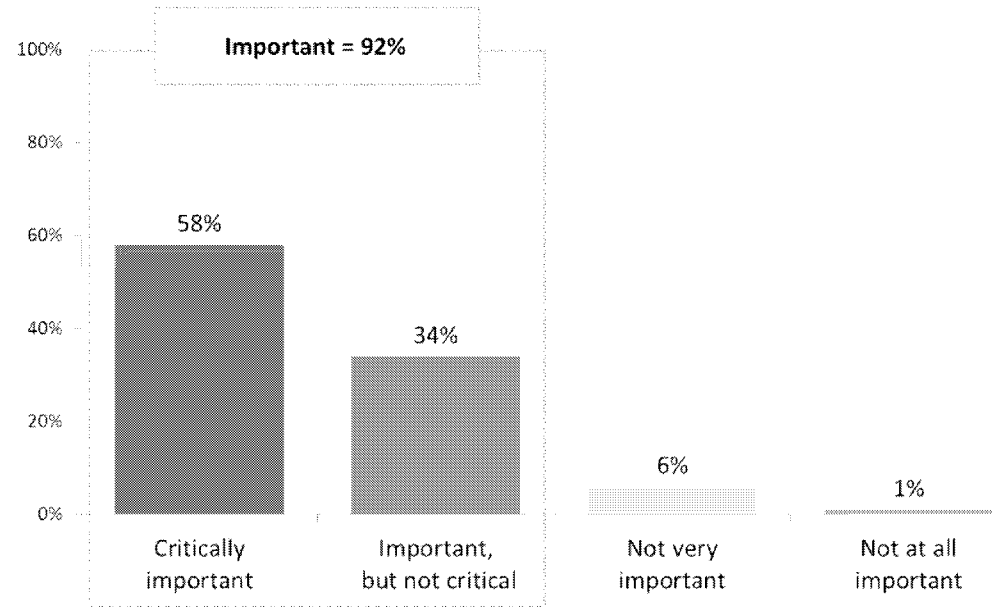


Importance of Transitioning to Cleaner Energy Sources

A strong majority of business respondents agree that, from a business perspective, it is important that the province in which their organization operates transitions to cleaner energy sources.

Just under six in ten business respondents believe that it is critically important that their province in which their organization operates transitions to cleaner energy sources, while one-third believe it is important, although not critical. Under one in ten believe it is unimportant. (Table 10)

Importance that Province Transitions to Cleaner Energy Sources



Q.10: And how important is it from a business perspective that the province(s) where your organization operates transition to cleaner energy sources? (n=77)



Environmentally Friendly

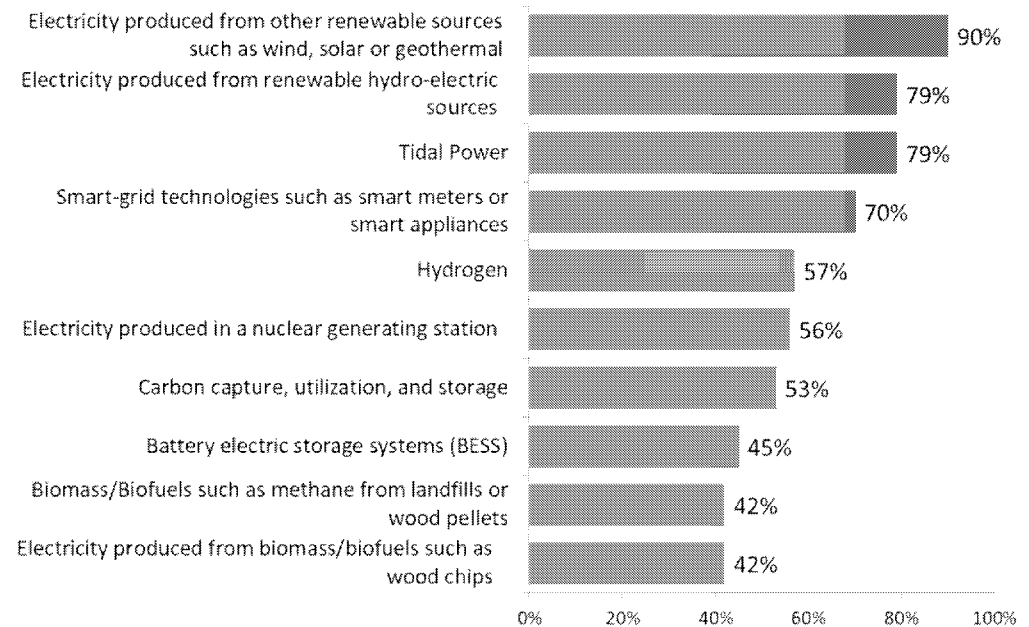
Business respondents consider several different fuels and technologies to be environmentally friendly, with electricity produced from various renewable sources like wind, solar and geothermal, being seen as environmentally friendly by most.

Business respondents were shown a long list of fuels and technologies and asked to choose the ones they considered to be environmentally friendly and then cost effective (shown on the following slide).

Electricity produced from renewable hydro-electric sources and other renewable sources (such as wind, solar, or geothermal) are considered to be environmentally friendly by most business respondents, with approximately 80 percent or more responding as such. (Table 11)

Consider To Be Environmentally Friendly

Key Aided Mentions



Q.11: Of the following, which do you consider to be environmentally friendly? Select all that apply. (n=77)



Cost Effective

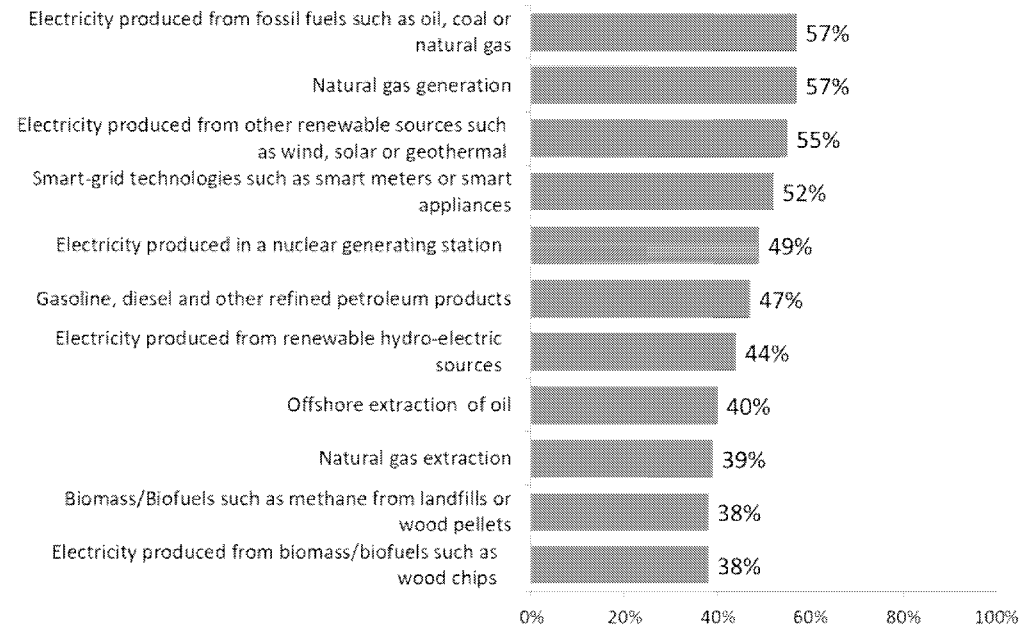
Of the fuels and technologies previously discussed, only four are seen by a majority of business respondents to be cost effective. Approximately four in ten to five in ten consider each of the remaining energy sources to be cost effective.

Business respondents were shown a list of fuels and technologies and asked to choose the ones they considered to be cost effective.

Four of the sixteen sources are considered to be cost effective by more than half of the respondents; electricity produced from fossil fuels (such as oil, coal or natural gas), natural gas generation, electricity produced from other renewable sources (such as wind, solar, or geothermal), and smart-grid technologies (such as smart meters or smart appliances). The remaining options were selected by approximately four or five in ten. (Table 11)

Consider To Be Cost Effective

Key Aided Mentions



Q.11: Of the following, which do you consider to be cost-effective? Select all that apply. (n=77)

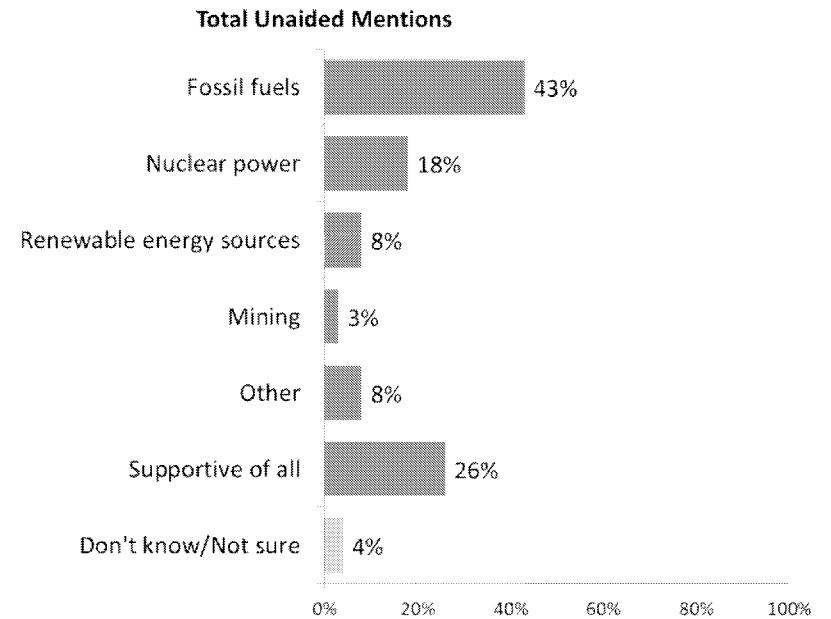


Development Close to Organization

Findings suggest that fossil fuel development is the most commonly mentioned source of development that business respondents would not support near their organization's operations.

Without the aid of a list, business respondents were asked what type of energy source their organization would not support close to where their business operates. Fossil fuels was the most common mention across business respondents, with just over four in ten responding as such. Nuclear power was mentioned by just under two in ten, followed by renewable energy sources and mining, mentioned by under one in ten. One-quarter of business respondents said their organization is supportive of all types of energy source development. (Table 12)

Type of Energy Source Development Would Not Support Close to Business Operations



Q.12: What type of energy source development would your organization not support close to where you operate? (n=77)



Statements – Energy Actions and Understanding

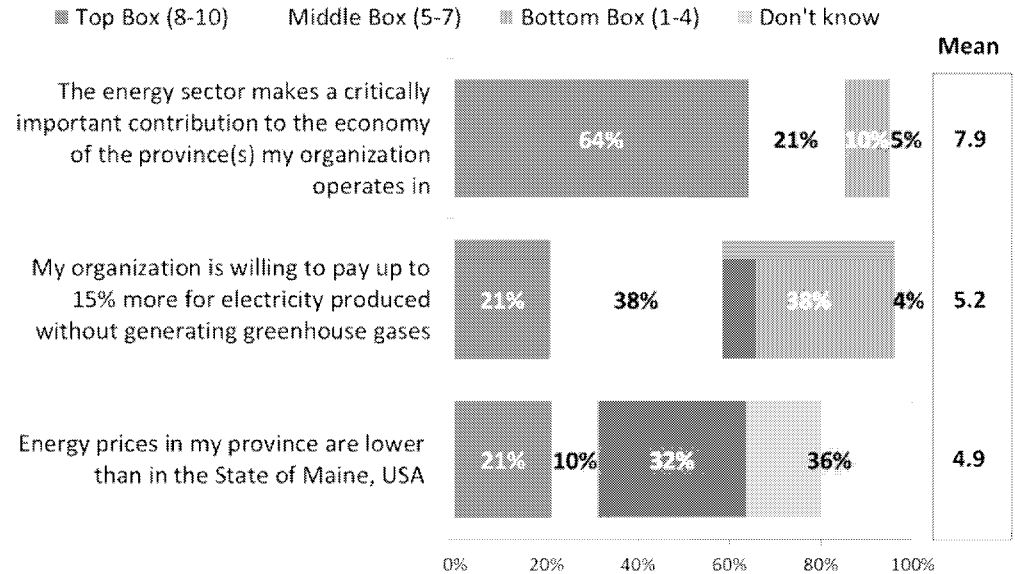
A majority of business respondents strongly agree that the energy sector makes a critically important contribution to the economy of their province.

Just under two-thirds of business respondents strongly agree (ratings of 8-10 out of 10) that the energy sector makes a critically important contribution to the economy of the province(s) their organization operates in. Just under two in ten respondents moderately agree (ratings of 5-7 out of 10) with this same sentiment. One in ten do not agree (ratings of 1-4 out of 10).

Fewer business respondents agree with the following two statements. Two in ten strongly agree that their organization is willing to pay up to 15 percent more for electricity produced without generating greenhouse gases and that energy prices in their province are lower than in the State of Maine. Interestingly, the 21 percent who strongly agree their organization is willing to pay 15 percent more for electricity produced without generating greenhouse gases is very similar to the 19 percent of the general public who agreed with the same statement.

The only statement to see a notable number of respondents say they don't know is energy prices are lower in my province than in the State of Maine. (Table 13a-c)

Agreement with Statements Ratings on a 10-pt. Scale, 10=Completely agree and 1=Completely disagree



Q.13a-c: To what extent do you agree or disagree with each of the following statements about your organization's energy actions or understanding. (n=77) Responses of 'Don't know' were excluded from the calculation of the mean.

Business Profile

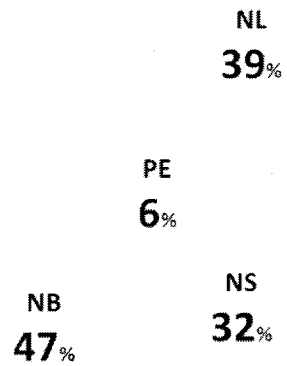




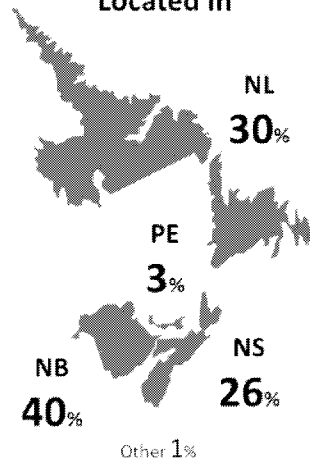
Business Profile

Business Profile (n=77)

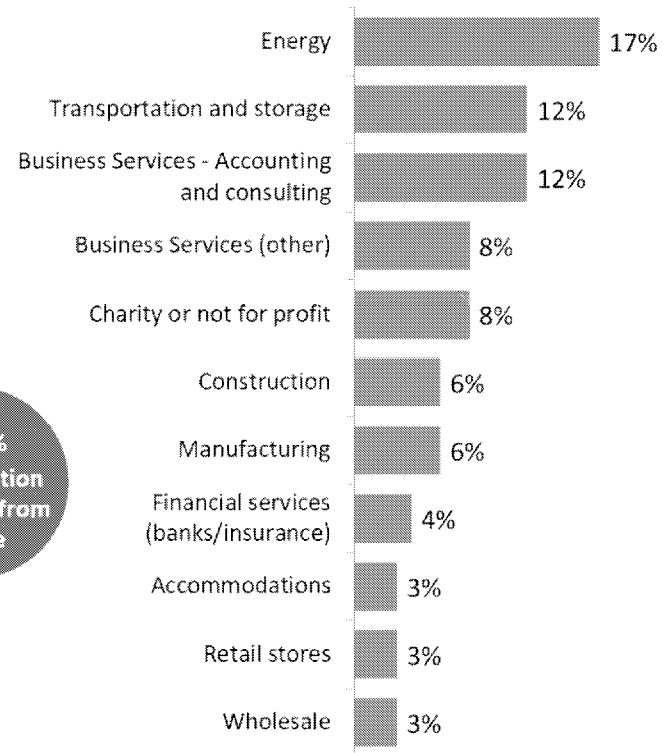
Currently Operate In



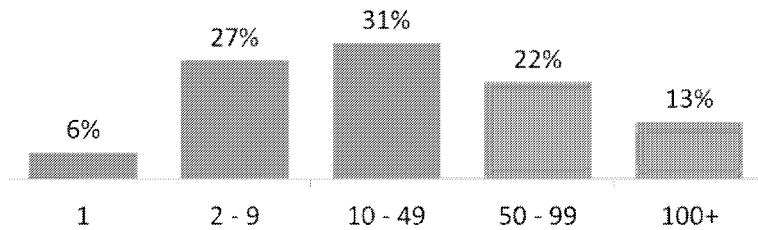
Located In



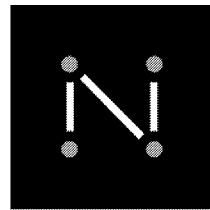
Principal Sector or Industry Key Aided Mentions



Number of Employees in Atlantic Canada

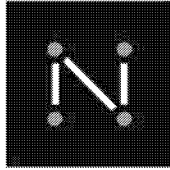


14%
Organization
operates from
home



NARRATIVE
RESEARCH

Every insight tells a story.



In-depth Interviews of Atlantic Canadian Businesses Energy Literacy Benchmark Study Prepared for the Atlantica Centre for Energy

Summary Results

This report is based on 30 in-depth interviews conducted with business owners and senior managers across Atlantic Canada. The study is part of a multi-phase and multi-audience study designed to better understand energy literacy in Atlantic Canada. Other components of this research have included:

- *an online survey of the general public (completed); and,*
- *an online survey of business owners and senior managers (starting September 2024).*

In-depth interviews with business owners were included as one research component because of the depth of understanding the technique can provide. In particular, responses from the in-depth interviews helped inform question development for the broader online survey of business owners and senior managers. Each interview lasted 25 to 30 minutes and covered a range of energy-related topics. Potential respondents were identified by Atlantica Centre for Energy and represented small and medium businesses in a wide range of industries. These businesses were selected at random and had no previous affiliation with the Atlantica Centre for Energy. They were first approached in writing to briefly explain the purpose of the research and that they would be contacted by a representative of Narrative Research to conduct the interview.

The original plan was to complete 35 interviews with 10 in each of NL, NS and NB and 5 in PE. Limited sample, difficulty reaching and scheduling, and refusals resulted in a total of 30 interviews being completed. NL had only 5 completed instead of the intended 10. Participants were offered a \$150 honorarium for their participation as either an e-transfer or a charitable donation. The interviews were designed to:

- *explore perceptions of energy literacy;*
- *sources of information and which are most trustworthy;*
- *energy issues for their business and future expectations;*
- *types of energy used in their province and challenges and opportunities related to energy in Atlantic Canada; and,*
- *importance of building new energy generation in the next 10 years.*

Qualitative techniques are used in marketing research as a means of developing insight and direction, rather than collecting quantitatively precise data or absolute measures. As such, results cannot be applied to the overall population under study and must be used as directional insight only. The reader is reminded that this

report is based on a small number of interviews and as such, findings should be interpreted as hypotheses rather than conclusions.

Key Findings

Knowledge Levels and Sources of Information

- All but a few of the respondents described their level of knowledge of energy as either good (approximately half) or very good. Interestingly, it was common for those who felt their knowledge was “good” to also indicate they could certainly learn more. People are most likely to credit their experience in running a business and attention to traditional news and media for their (perceived) high levels of energy knowledge.
- A varied array of aspects of “energy” come to mind initially. Respondents frequently think of the energy they use to heat homes and for transportation. Many generally respond with “power”, and some with “green initiatives”. “Electricity” is a commonly cited specific source of energy, as are fossil fuels such as oil and gas. There is some mention of vehicles and the fuel they require and a few who mention cost-related issues. Very little comes to mind initially regarding how energy is created, though a few mention “hydro” and “nuclear” as among the sources of energy.
- Recognizing that qualitative interviews like these are not an appropriate methodology for quoting precise numbers, it is still interesting to note that approximately two-thirds of respondents described themselves as passive collectors of energy-related information and only a few felt they were active. This information comes from many sources with traditional media – broadcast, print or online versions mentioned regularly, utilities, related organizations such as Efficiency Nova Scotia, Energy NL and Atlantica Centre for Energy (cited by one respondent). General online searches and news feeds were also noted. A few people noted that they received most of their information from colleagues and friends (word-of-mouth) and a few who worked in energy-related businesses (installing heating and cooling systems as an example) referred to information from the manufacturers of equipment they were installing.
- When asked about trustworthy sources of information, government, both federal and provincial are often cited, though they are also cited as not trustworthy and not being transparent by fewer respondents. Other trustworthy sources of information cited reasonably often include traditional media (almost all in NL&L cite “CBC” specifically) and academic/ scientific/ independent research. Utilities are also frequently treated as trustworthy sources, but they are also “questioned” for a lack of transparency and “having their own agenda.” This was more prevalent for NB Power from a few New Brunswick participants and for NS Power for a few respondents from Nova Scotia. Those questioning the trustworthiness of utilities believe they are more motivated by the interests of other stakeholders (be they executives of the utility itself, government, shareholders or others) than those of energy consumers.

- It is noteworthy to list the characteristics of organizations considered more trustworthy. The common words included third-party, independent, not selling/not with a vested interest, academic/evidence-based and reputable.
- While there is a breath of perspective on trustworthy sources, there is broad agreement that social media is not trustworthy in general. People believe there are too many commentators informed by opinions rather than facts or with specific agendas to take much of what they see online as credible.

Would Like to Know More About

- There is interest in knowing more about a wide range of energy topics. Interest in renewables and what might be described as “emerging energy sources” is high, with wind (especially in NL&L), solar and tidal most often mentioned. One question with some of these renewable sources is how to manage demand with intermittent sources such as wind and solar. Several expressed an interest in knowing more about hydrogen and whether the commitment that is currently being made to electrification is really the best approach because of questions such as the sustainability of lithium mining (as an example).
- There is also considerable interest in “pocketbook” issues, including “lowering my costs” in general, understanding the actual cost savings from energy efficiency (documented by real examples), the opportunities to participate in programs to lower the cost of adopting more efficient technologies and renewables.
- Underscoring some skepticism of regulated energy utilities seen elsewhere, there is also interest expressed by some in learning more about the financial and operational aspects of the utilities in their province. This was more prevalent in New Brunswick.
- A few also mention an interest in learning more about EVs from a source that is credibly neutral. Interest here extends beyond details of the vehicle, including range and how the region’s harsh winters can impact that, to whether the technology itself is actually leading to reduced carbon footprints considering mining the required minerals and producing the vehicles.

Greatest Energy Issue Faced by their Business - Alternatives

- The most commonly cited leading energy issues faced by their business are “pocketbook”, or cost-related, concerns. The purchase price of various types of energy, from electricity to vehicle fuel, is a concern to many businesses. Inflation, the cost of upgrading equipment and the carbon tax are all cost-related concerns that emerge. People also express concern about temperature management in their facilities, particularly if they are operating an industrial-type facility.
- There appears to be a lot of uncertainty about the future of energy pricing, with many feeling unable to even guess about the future of costs. Among those who do comment, there is almost universal belief that costs will increase, and, in many cases, do so significantly. In the near-term of 2 – 3 years, expectations range from just under the current rate of inflation, to 30% over the period. In the longer term, predictions

for energy pricing are more dire, with some saying they expect costs to go up anywhere from 20% to 100% over the next 10 years.

- While many respondents are aware of emerging energy technologies such as residential or commercial solar PV, heat pumps and electric vehicles, many feel limited in their ability to implement energy alternatives. Acquisition and installation costs are cited as barriers as well as uncertainty of whether an alternative is viable (such as whether heat pumps can effectively heat a warehouse). Viability is also a concern among many regarding EVs with concerns about range, perceived poor charging infrastructure and cost leading some to cite them as not realistic options for their business. Those who rent their facilities tend to feel more constrained in their ability to implement changes.

Main Types of Energy Used

- Fossil fuels are identified by two-thirds of participants as the primary type of energy in their province. Electricity is also frequently identified. It is clear that many respondents throughout the region are not sure how electricity in their province is generated, or at least, are not sure of the proportions generated in different ways. About a third mention “water” or “hydro” as a primary source of energy in their province, with this answer being a little more common in Newfoundland (although based on a small number of interviews). In NB, some specifically mention nuclear as well.
- There is less certainty about the primary sources of energy across the region. A typical answer is to assume the patterns of their province are repeated for the region. Of those offering an opinion, the distribution of sources broadly reflects those identified by province.

Challenges and Opportunities

- The challenges people identify are as varied as the sources of energy and the topics they’d like to learn more about, but there were three that were consistently mentioned more than the others:
 - costs/efforts/difficulty of moving to greener energy sources;
 - the geography of this region/its isolation/its weather and small population; and,
 - old/aging energy infrastructure. Again, recognizing small sample sizes, this challenge seemed to be mentioned more in the New Brunswick interviews.

Other challenges that tended to only be mentioned in one or two interviews included a lack of capacity on current grids, limited skilled workers, natural disasters/extreme weather, not wanting energy developments to be undertaken and a lack of transparency from utilities and government.

- Among the energy opportunities for the region, the potential of renewable energy sources is often mentioned. Almost half of the respondents mentioned wind. Solar and hydro were each mentioned by five to six respondents. While the emphasis was on renewable energy sources, a few respondents mentioned each of natural gas, nuclear and small modular reactors (more in New Brunswick) and oil and gas development. Hydrogen was also noted by a few respondents.

Need for New Energy Generation

- Nearly all (27 of 30) believe it is important for their province to develop new sources of energy generation in the next 10 years. Meeting growing demand and replacing aging infrastructure are about equally cited as leading reasons, with slightly fewer citing that emissions reductions targets are the “main reason” to do so. Some believe all three are equally important as reasons.

Conclusions

- While most believe they currently have “good” energy knowledge, there is interest in building on this knowledge that spans a wide range of energy topics. The following topics are all of general interest. They are not in order, but renewable energy and cost reduction options were mentioned more frequently:
 - renewable energy – generation and how to integrate this into the energy supply chain;
 - nuclear energy;
 - hydrogen;
 - cost reduction options – including practical, demonstrated outcomes;
 - the business practices of regulated energy utilities; and,
 - EVs and the net environmental implications of a transportation industry transition to EVs.
- To be meaningful, information needs to come from a source not perceived to have vested interests or “an agenda”. Traditional media are generally believed to be credible, trustworthy sources of information, as are academic institutions and industry-focused NGOs and research institutes. As such, the Atlantica Centre for Energy is positioned as a trusted information source.
- People are divided on whether governments themselves are trustworthy sources of information on energy issues. The regulated utilities also generate some skepticism. There is no such division when it comes to social media, however, and almost all are inclined to distrust, or at least be highly skeptical of information seen online.
- Businesspeople in Atlantic Canada are very concerned about energy costs and how they do and will continue to impact their businesses. There is uncertainty about the future of energy pricing, but the consensus among those willing to speculate is that costs will only increase. Despite this, people feel they have limited options to implement emerging energy technologies with cost and feasibility of alternatives being key barriers.
- Despite their concerns regarding costs – or because of them – there is a strong consensus that the region needs to develop new sources of energy.

February 28, 2025

Energy Literacy Benchmark Study for Atlantic Canada

Summary of key findings

Atlantica Centre for Energy

Michelle Robichaud, President
Jonathan Alward, VP, Policy



APRI Disclaimer

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- This report is funded by the Atlantic Canada Opportunities Agency (ACOA) under the Atlantic Policy Research Initiative, which provides a vehicle for the analysis of key socioeconomic policy issues in Atlantic Canada. The views expressed in this study do not reflect the views of ACOA or of the Government of Canada. The authors are responsible for the accuracy, reliability and currency of the information.

Background

3

The Energy Literacy Benchmark Study for Atlantic Canada was developed with a goal of first understanding what Atlantic Canadians know about energy and the energy sector.

- By better understanding potential gaps in energy literacy, stakeholders can adjust programming to improve energy literacy levels;
- By improving energy literacy levels, Atlantic Canadians can save money and reduce emissions, while growing the energy sector and economy.

Project Design

4

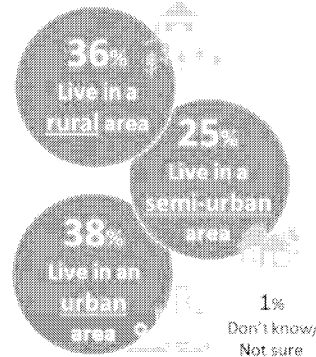
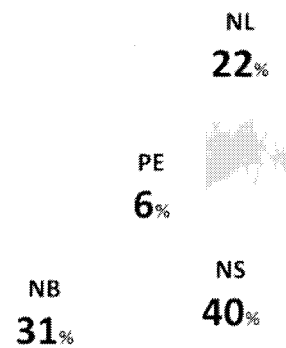
The Study has four main research components, as well as a final report with recommendations for different stakeholders:

- General Public Energy Literacy Benchmark Study;
- In-depth Interviews of Atlantic Canadian Businesses;
- Business Energy Literacy Benchmark Study; and,
- A cross-jurisdictional scan of existing energy literacy resources in Atlantic Canada.

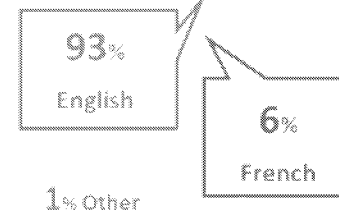
The surveys and interviews were conducted with support from Narrative Research, and the Centre completed the cross-jurisdictional scan.

General Public Survey Design

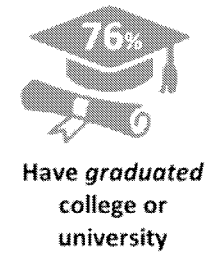
Respondent Profile (n=1,224)



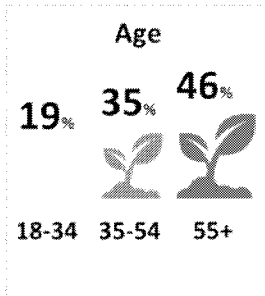
Language Spoken Most Often in Home



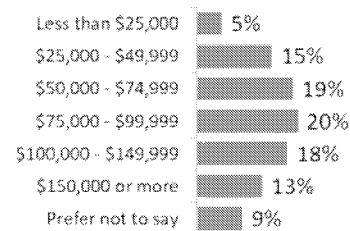
Education



- 1% Less than high school
- 6% Graduated high school
- 16% Some college/university
- 1% Prefer not to say



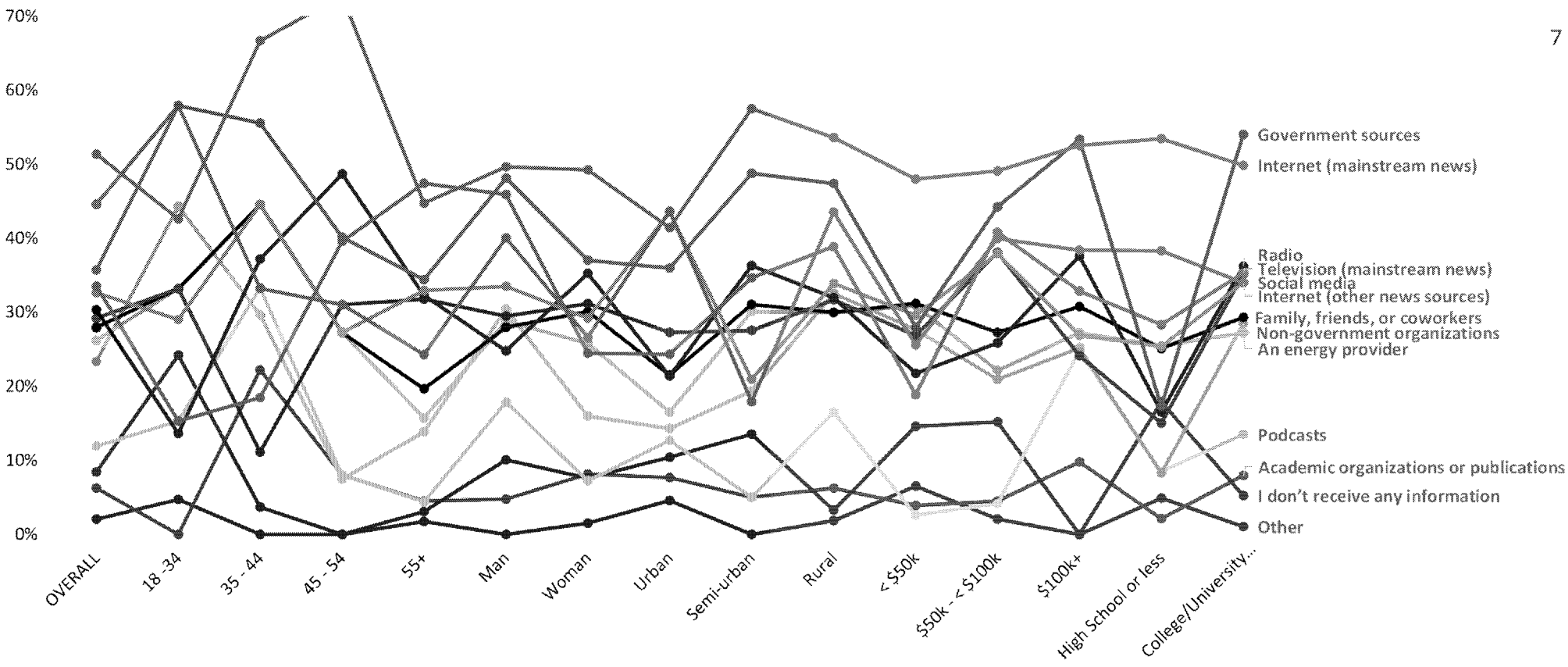
Household Income



Findings: General Public Survey

- The majority of respondents consume energy-related information (67%).
- The most common source for energy-related information is mainstream news;
 - both online (48%) and on television (40%).
- The most trusted source of energy-related information is from governments (44%).

Sources of Energy-Related Information on Prince Edward Island

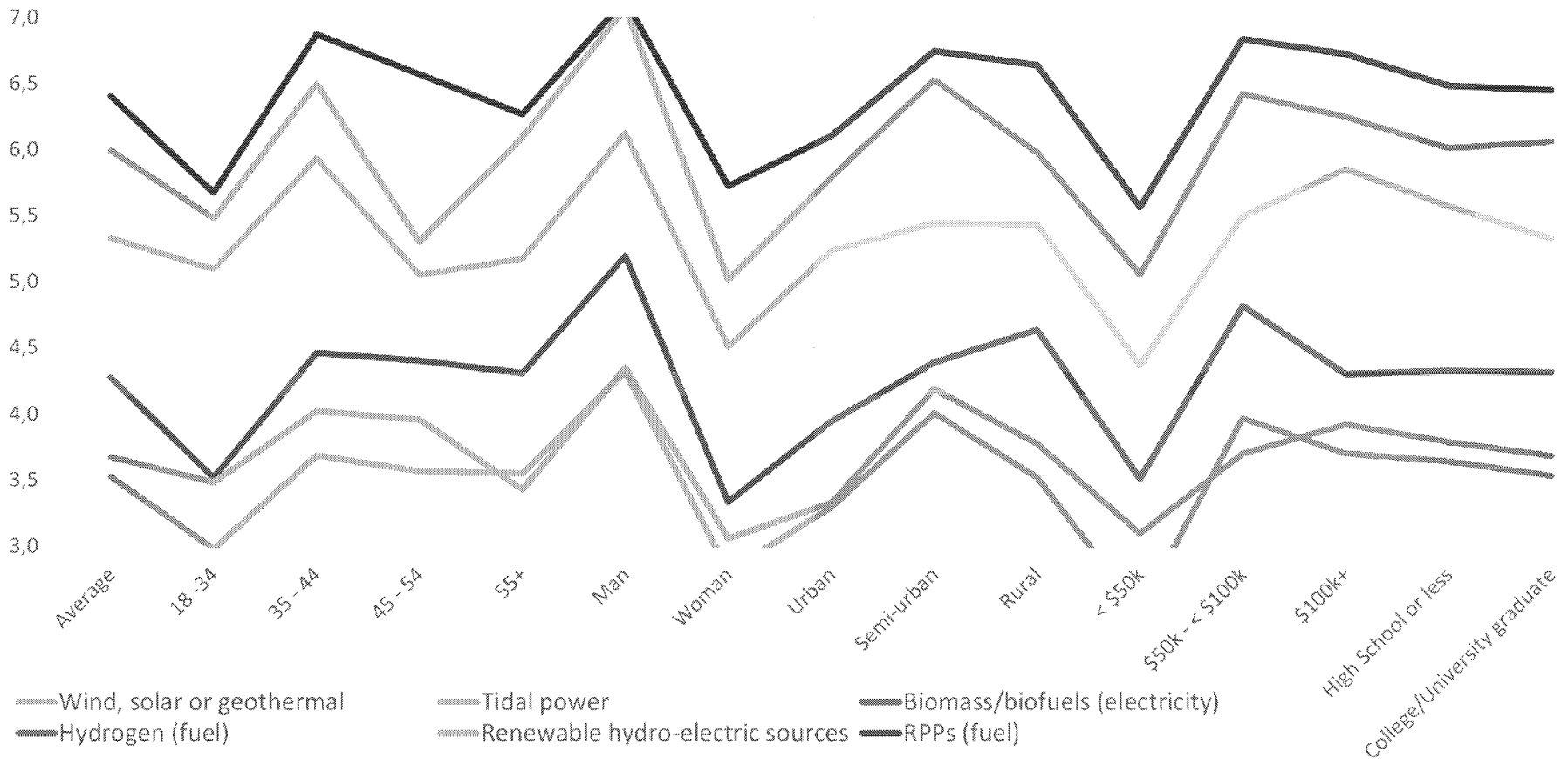


Findings: General Public Survey

Respondents were tested on their energy-related knowledge when asked to identify the types of energy used directly in their province (high – level understanding).

- The responses were generally correct;
- There were some differences related educational level;
- However, the greatest variability was related to amount of energy-related information consumed:
 - the more information you consume, the more accurate your responses were.

Knowledge of Different Energy Sources (Newfoundland and Labrador)



Findings: General Public Survey

- However, when the test questions become more challenging, most respondents answered incorrectly (in-depth understanding):
 - Energy prices in my province are closely regulated (28% correct);
 - Reducing electricity demand is the most cost-effective way to reduce electricity costs (28% correct);
 - My province uses more than twice as much energy from refined fossil fuels than from electricity (17% correct);
 - “Knowledgeable” and “informed” respondents were more often correct, but even the majority of these categories were wrong.

Findings: General Public Survey

11

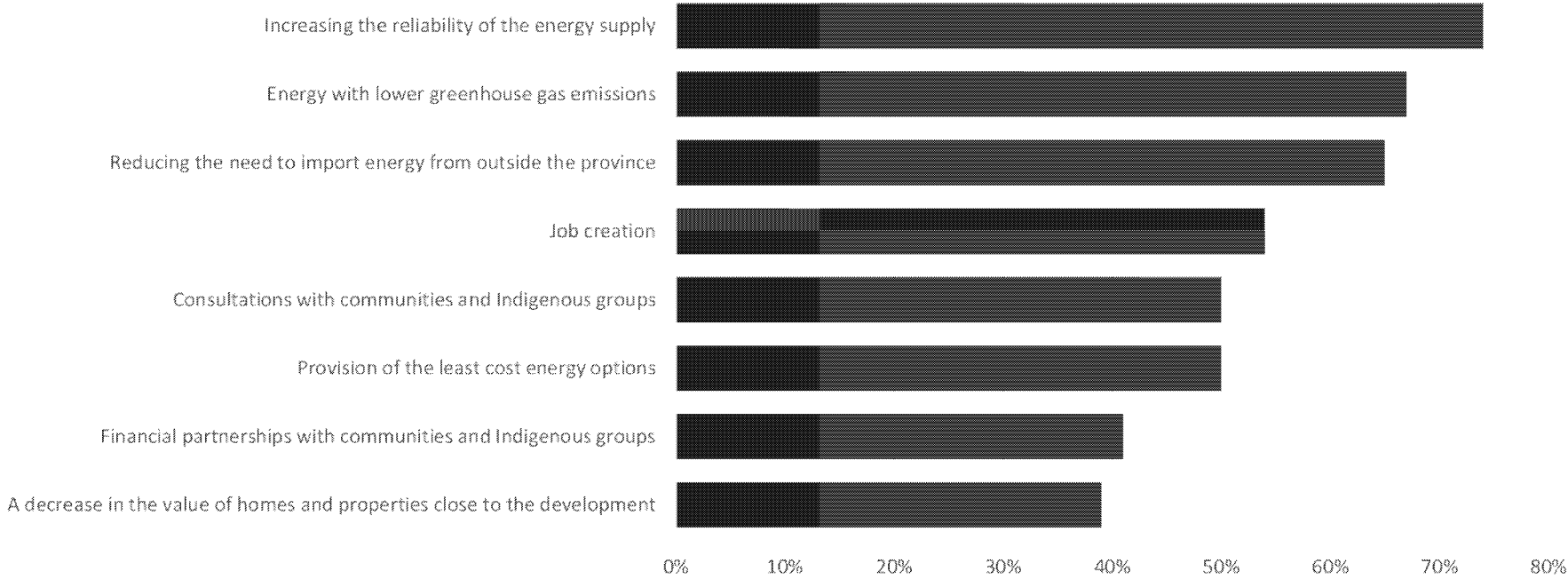
- How important is it that your province builds new sources of energy generation in the next 10 years?
 - Critically important (61%);
 - Important, but not critical (31%);
 - Slightly less critical in Newfoundland and Labrador.

Findings: General Public Survey

12

- When asked about developing new projects in their province, a strong majority of respondents rated the following as Extremely Important:
 - Increasing the reliability of the energy supply (77%);
 - Energy with lower greenhouse gas emissions (67%);
 - Reducing the need to import energy from outside the province (65%);
 - Provision of the least cost energy options (49%).

Energy Development Priorities in New Brunswick



Findings: General Public Survey

14

- How important is it for you personally that your province transitions to cleaner energy sources?
 - 44% said critically important;
 - 39% found it important, but not critical.
- When pressed in a later statement, just 19% of respondents agreed they were ‘willing to pay up to 15% more for electricity produced without generating greenhouse gases.’

Other Survey Findings

Consider To Be Environmentally Friendly

Total Aided Mentions





	Overall	NB	NL	NS	PE
Electricity produced from other renewable sources such as wind, solar or geothermal	85%	86%	81%	88%	79%
Electricity produced from renewable hydro-electric sources	74%	72%	79%	73%	66%
Tidal Power	74%	75%	68%	76%	73%
Smart-grid technologies	58%	62%	52%	56%	63%
Carbon capture, utilization, and storage	46%	44%	45%	48%	38%
Hydrogen	44%	45%	42%	43%	45%
Battery electric storage systems (BESS)	44%	43%	40%	47%	48%
Electricity produced in a nuclear generating station	38%	40%	29%	39%	47%
Biomass/Biofuels such as methane from landfills or wood pellets	33%	34%	35%	30%	39%
Electricity produced from biomass/biofuels such as wood chips	28%	29%	28%	27%	31%
Natural gas generation	23%	24%	22%	22%	33%
Natural gas extraction	17%	15%	18%	16%	27%
Offshore extraction of oil	9%	9%	15%	7%	7%
Electricity produced from fossil fuels such as oil, coal or natural gas	7%	9%	9%	5%	7%
Gasoline, diesel and other refined petroleum products	6%	6%	7%	4%	9%

Q.11: Of the following, which do you consider to be environmentally friendly? Select all that apply. (n=1,224)

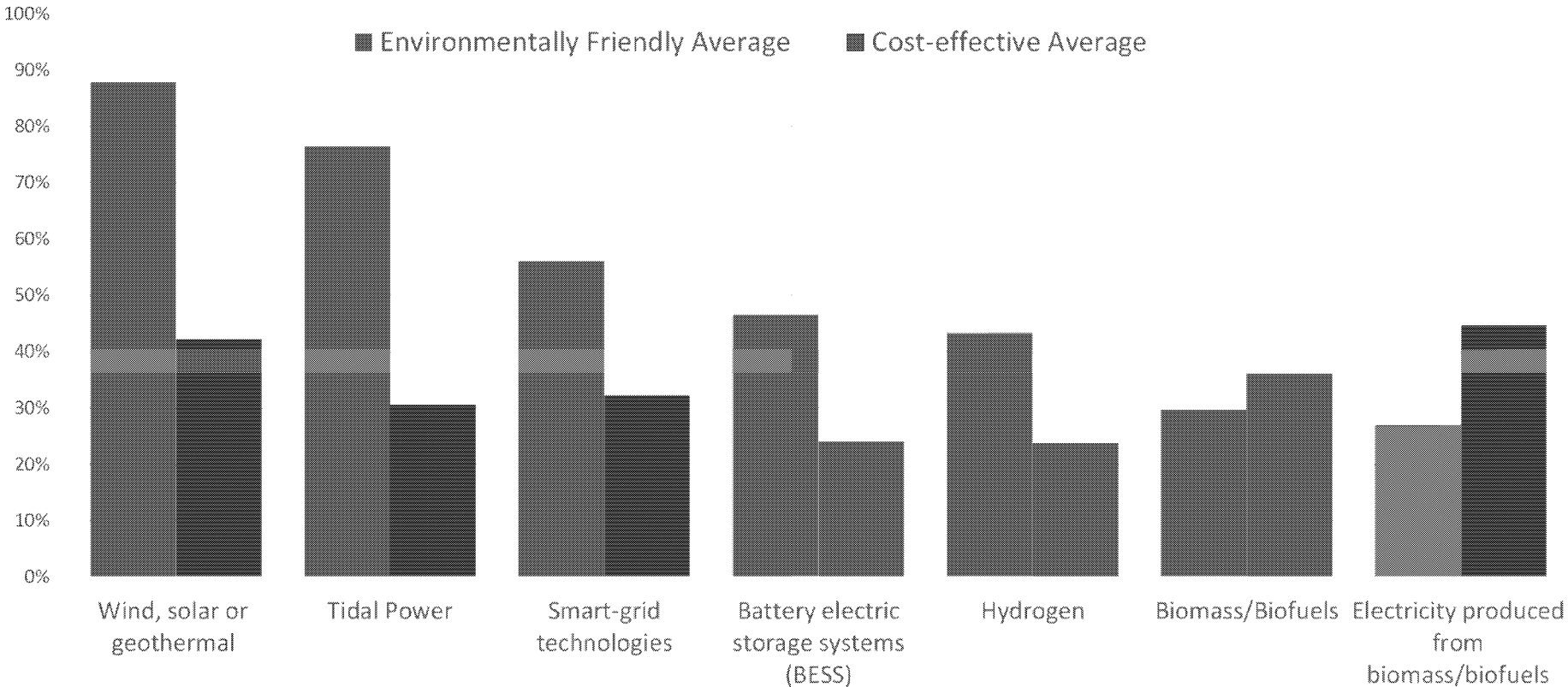
Other Survey Findings

Consider To Be Cost Effective

Total Aided Mentions

	Overall	 NB	 NL	 NS	 PE
Electricity produced from fossil fuels such as oil, coal or natural gas	51%	51%	50%	52%	46%
Electricity produced in a nuclear generating station	47%	51%	43%	48%	42%
Gasoline, diesel and other refined petroleum products	45%	45%	48%	45%	42%
Electricity produced from renewable hydro-electric sources	44%	47%	44%	42%	35%
Electricity produced from biomass/biofuels such as wood chips	43%	44%	36%	45%	50%
Electricity produced from other renewable sources such as wind, solar or geothermal	43%	41%	38%	47%	45%
Natural gas generation	42%	47%	43%	37%	42%
Offshore extraction of oil	42%	39%	51%	39%	40%
Natural gas extraction	41%	43%	42%	39%	41%
Biomass/Biofuels such as methane from landfills or wood pellets	36%	41%	27%	36%	40%
Smart-grid technologies	33%	33%	32%	32%	35%
Tidal Power	29%	29%	25%	31%	26%
Hydrogen	24%	24%	25%	24%	19%
Battery electric storage systems (BESS)	24%	25%	21%	24%	24%
Carbon capture, utilization, and storage	19%	19%	20%	19%	20%

Opinion of Different Energy Sources in Nova Scotia



Design of In-depth Interviews with SMEs

- A total of 30 in-depth interviews were conducted.
- Interviews were with business owners and senior managers across the region.
 - It was more challenging to reach interviewees in Newfoundland and Labrador
- Potential respondents were identified by the Centre but were selected at random and represented a wide range of industries.
 - Contacts were collected from business stakeholder organizations.
- Each interview lasted 25 to 30 minutes and covered a range of energy-related topics.

Findings: In-depth Interviews with SMEs

- Results for perceived knowledge were relatively consistent with results from the General Public Survey.
- The majority interviewed supported building new generation and transitioning to cleaner energy sources.
- Businesses agreed “the energy sector makes critically important contributions to the economy.”
- Cost considerations were more important in interviews. Respondents also noted an appetite for more information without ‘vested interests.’
- *The sample size was insufficient to draw concrete conclusions from.*

Business Survey Design

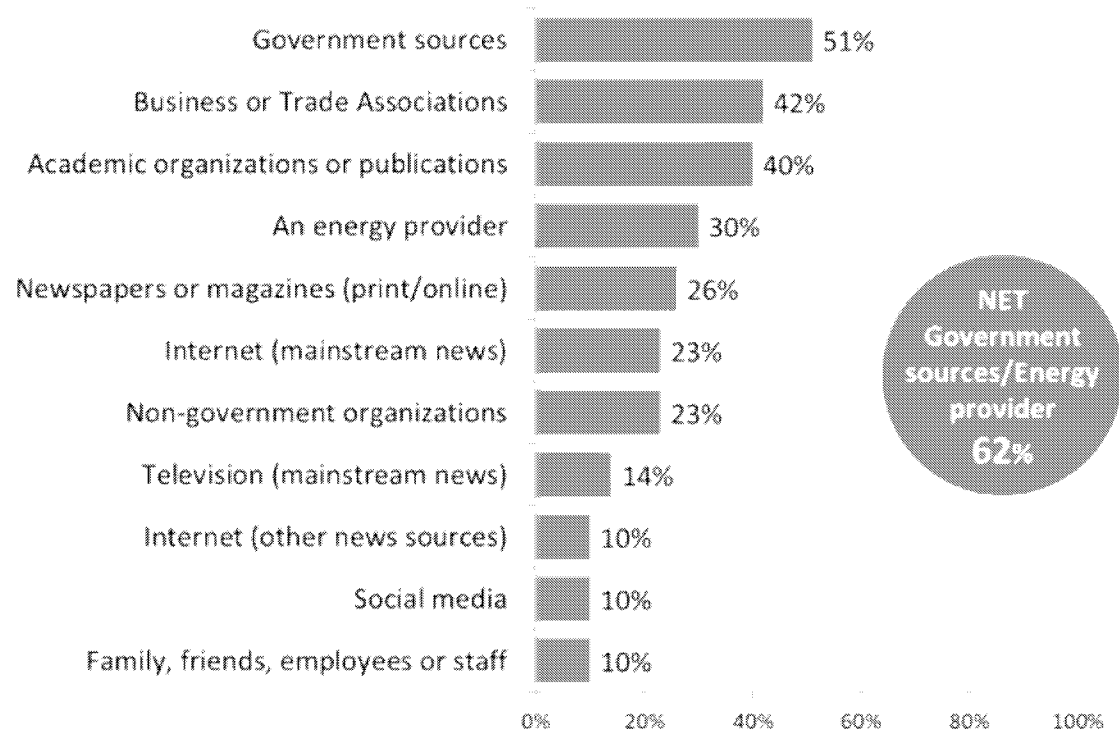
- The business survey was also conducted using an online survey.
- At least 11 membership organizations agreed to distribute a link to their membership.
- The Centre also shared the survey on LinkedIn through targeted advertising.
- To ensure the correct target audience was surveyed, potential respondents were first asked if they were involved in decision making for their organization.
- 77 surveys were completed even though the survey was available for seven weeks from September 11 to November 1, 2024.

Findings: Business Survey

- It appears SME owners consume more energy-related information than the general public.
 - Information obtained from governments is considered the most trustworthy, similar to the general public.
 - Business or trade organizations appear to play an important role in obtaining trustworthy energy-related information.
- It appears SME owners **perceive** they know more and **do** know more about energy than the general public.
- Other findings were consistent with those in the in-depth interviews (generation, emissions).
- Emission reduction, efficiency programs and business opportunities are top areas of interest; and,
- *The sample size was insufficient to draw concrete conclusions from.*

Most Trusted Source of Energy-Related Information

Key Aided Mentions from Total Mentions



Key Takeaways of the Study

- The Survey of the General Public found that there is a positive correlation between consuming more energy-related information and a high-level understanding of energy for Atlantic Canadians.
- However, when the questions become slightly more complicated, most respondents got test questions wrong.
 - This is especially true for questions relating to pricing and the amount fossil fuels used in the region.
- There appears to be a positive correlation between the amount of energy-related information one consumes and believing a technology is environmentally friendly.

Key Takeaways of the Study

- There also appears to be a positive correlation between the amount of energy-related information one consumes and believing it is critically important to add additional electricity generation.
- Importantly, less than one-third of Atlantic Canadians opposed any one type of energy development in their community. Opposition to energy development seems driven by a vocal minority.
- The public places importance on energy being reliable and on reducing emissions. Fewer believe the cost of energy is important, but most are not willing to pay (up to 15%) more to reduce emissions.

Study Uncertainties

- We do not understand enough about the relationship between knowing more about energy and opposition or support for project development;
 - What happens as more and more people become informed?
 - How do your sources of energy-related information influence your opinions?
 - At what point do you move from knowledgeable (or not) to actively engaged in opposition or support for a project?

Follow-up Work

- Based on this Survey, the Centre believes all stakeholders should place a priority on improving the public's energy literacy to help support growing and decarbonizing the region's energy sector.
- Follow-up studies should be conducted to show what progress is being made to improve energy literacy across the region.
 - Explore other topics and dive deeper to learn more about development and adaptation roadblocks.

Follow-up Work

- Based on this Survey, the Atlantica Centre for Energy believes all stakeholders (governments, industry, media, academia) should place a priority on improving the public's energy literacy to help support decarbonizing Atlantic Canada's energy sector.
- Follow-up studies should be conducted in the future to show what progress, if any, is being made to improve energy literacy across the region.
- Further studies could be done to understand energy literacy amongst SMEs (using alternative outreach strategies).

Thank You

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The Energy Literacy Benchmark Study for Atlantic Canada would not have been possible without financial support from the Atlantic Canada Opportunities Agency.

The Centre also appreciates the dozens of organizations which donated in-kind contributions to make this Study a reality.



Contact Information

For further discussions, please contact:

Michelle Robichaud at michelle.robichaud@atlanticaenergy.org

Jonathan Alward at jonathan.alward@atlanticaenergy.org

Visit [**www.AtlanticaEnergy.org**](http://www.AtlanticaEnergy.org) to learn more about other local energy research.

Please subscribe to the monthly **newsletter** and follow the Centre on **social media**.

From: [Jeanetta Hill](#)
To: [Kalie Hatt-Kilburn](#)
Cc: [Lindsay Walker](#)
Subject: FW: Moltex
Sent: 11/13/2024 10:12:00 AM

Some early observations as info for you. Laura will be point on preparing more briefings but these bullet were shared with Nadine in advance of the President's meeting with NRCAN.

Thanks
Jeanetta

From: Josh Jenkins
Sent: Tuesday, November 12, 2024 9:55 AM
To: Jeanetta Hill
Subject: FW: Moltex

Fyi – early takeaways from the Moltex visit last week (some bullets to support a DM meeting with NRCAN)

More detailed notes will be available later in the week,
Josh

From: Laura DeLong <Laura.DeLong@ACOA-APECA.GC.CA>
Sent: Tuesday, November 12, 2024 9:50 AM
To: Nadine Cormier <Nadine.Cormier@ACOA-APECA.GC.CA>
Cc: Lynn Adams <Lynn.Adams@ACOA-APECA.GC.CA>; Roger Miranda <Roger.Miranda@acoa-apeca.gc.ca>; Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>; Luke Bulmer <Luke.Bulmer@acoa-apeca.gc.ca>; Patrick Lacroix <Patrick.Lacroix@ACOA-APECA.GC.CA>

Subject: RE: Moltex
Nadine: I hope that these are helpful – happy to discuss in more detail if you'd like. Also, over the week when time permits, I will be pulling together all my notes from the trip and am happy to share those too.

Laura

**

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-
-
-
-

- The Agency will be monitoring both the scientific outcomes, as well as the commercialization path of the company going forward (in partnership with our federal funding partners).

Timeframe

Event	Timeframe
Testing at CNL continues	Mid December
Report provided to NB Power	By December 31st

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)

From: Nadine Cormier <Nadine.Cormier@ACOIA-APECA.GC.CA>

Sent: Tuesday, November 12, 2024 8:59 AM

To: Josh Jenkins <Josh.Jenkins@acoia-apeca.gc.ca>

Cc: Lynn Adams <Lynn.Adams@ACOIA-APECA.GC.CA>; Laura DeLong <Laura.DeLong@ACOIA-APECA.GC.CA>; Roger Miranda <Roger.Miranda@acoia-apeca.gc.ca>

Subject: RE: Moltex

Thank you! Nadine

Nadine Cormier (her/elle)

Senior Policy Analyst | Analyste principal des politiques

Green Economy Policy | Politiques Economie Verte

Atlantic Canada Opportunities Agency (ACOIA) | Agence de promotion économique du

Canada atlantique (APECA)

506-227-3076 | nadine.cormier@acoia-apeca.gc.ca

From: Josh Jenkins <Josh.Jenkins@acoia-apeca.gc.ca>

Sent: Thursday, November 7, 2024 4:25 PM

To: Nadine Cormier <Nadine.Cormier@ACOIA-APECA.GC.CA>

Cc: Lynn Adams <Lynn.Adams@ACOIA-APECA.GC.CA>; Laura DeLong <Laura.DeLong@ACOIA-APECA.GC.CA>;

Roger Miranda <Roger.Miranda@acoia-apeca.gc.ca>

Subject: Re: Moltex

Great timing; Laura and I are attending the company's test of their technology at CNL tomorrow, along with colleagues from NRCan and SIF.

Should be able to get you a few bullets on the 12th

Josh

Sent from my iPhone

On Nov 7, 2024, at 1:43 PM, Nadine Cormier <Nadine.Cormier@acoia-apeca.gc.ca> wrote:

Hi Josh

Hope you are well.

I have been tasked with preparing a meeting note for our President for her monthly meeting with NRCan.

Do you have a few bullets you could share with me on the current status of this project and any involvement we have that may interest NRCan?

My note is due November 13. If I could get something by **noonish on November 12**, this would provide sufficient time for me to complete the note.

Thanks,

Nadine

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**is withheld pursuant to sections
est retenue en vertu des articles**

20(1)(b), 20(1)(c), 20(1)(d), 21(1)(c)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

**Pages 1482 to / à 1483
are withheld pursuant to sections
sont retenues en vertu des articles

20(1)(a), 20(1)(b), 20(1)(c), 20(1)(d)

of the Access to Information Act
de la Loi sur l'accès à l'information**

From: Josh Jenkins on behalf of Josh Jenkins
To: Jeanetta Hill
Subject: RE: Moltex amendment
Sent: 9/26/2024 1:55:36 PM

Hi there,

We should have added that language; sorry about that.

In drafting the amendment and integrating Kalie's comments I looked up the language around stacking in our policy manual and "overpayment" is used as an umbrella term, in that it applies to stacking as well as assistance rates or any other scenario where more federal funds have been disbursed than should have been. In all cases, there are mechanisms that come into play to get the money back.

Don't want you to think we'll have a blind spot on that specific point going forward.

Josh

From: Jeanetta Hill
Sent: Thursday, September 26, 2024 1:22 PM
To: Melinda Scott
Cc: Krista Hicks ; Shauna Clark ; Josh Jenkins
Subject: RE: Moltex amendment
Thanks – this is completed.

Shauna is adding a quick note to file on an addition that was missed.

Thanks

J

From: Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>
Sent: Wednesday, September 25, 2024 1:29 PM
To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Cc: Krista Hicks <Krista.Hicks@ACOA-APECA.GC.CA>; Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>; Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Subject: RE: Moltex amendment

Hi Jeanetta,

Attached is the updated letter for review/signature. The amendment approval process can be found at: https://capri.crm3.dynamics.com/main.aspx?appid=21e8eeab-b88a-ec11-8d20-0022483d0b7f&newWindow=true&pagetype=entityrecord&etn=egcs_fc_decision&id=d3f0a97c-8c76-ef11-ac20-002248b0ed1b&data=%257B%257D&lid=1726753198868

Melinda

From: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>
Sent: Wednesday, September 25, 2024 1:25 PM
To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>; Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>; Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>
Cc: Krista Hicks <Krista.Hicks@ACOA-APECA.GC.CA>
Subject: RE: Moltex amendment

Hi all,

Linda B. just messaged me to say that the amendment has been fixed. Apparently there had been a repayment schedule created before the project was changed to Cond. Repayable and it was still in the backend. It's been deleted now though.

Melinda – can you get the letter re-dated also, please? Thanks.

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Sent: Wednesday, September 25, 2024 10:37 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>; Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>

APECA.GC.CA>

Cc: Krista Hicks <Krista.Hicks@ACOA-APECA.GC.CA>

Subject: RE: Moltex amendment

Ok – let me know when its ready for my review as DG and VP as I will make it a priority.

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Wednesday, September 25, 2024 10:07 AM

To: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>

Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>

Subject: RE: Moltex amendment

Thanks Shauna – would you happen to know who that would typically be assigned to? Would it be Linda Boudreau?

I'd like to follow up with them and indicate the urgency of the issue, in case that'd be helpful.

Josh

From: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>

Sent: Wednesday, September 25, 2024 9:50 AM

To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>

Subject: RE: Moltex amendment

Good morning,

Still waiting on IT for this one. I did end up sending a track-it Monday morning as Lisa M. had a look at it and didn't understand why there was a repayment schedule, so she suggested I send the track-it in.

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Friday, September 20, 2024 4:59 PM

To: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>

Cc: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>

Subject: Re: Moltex amendment

No intention to change to straight repayable so we'll need to fix that in addition to adding the new language. I'll notify SIF - thanks

Josh

Sent from my iPhone

On Sep 20, 2024, at 4:47 PM, Shauna Clark <Shauna.Clark@acoa-apeca.gc.ca> wrote:

Hmmm, I'm not sure why there is a repayment schedule in there, unless I'm not aware that this is being turned into a straight repayable project, or something like that?

From: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>

Sent: Friday, September 20, 2024 4:34 PM

To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Cc: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>

Subject: RE: Moltex amendment

Thanks Josh

Im good to proceed with this amendment.

I'd like to include that not only are we risk mitigating overpayment but also mitigating exceeding REGI stacking policy.

There is a repayment scheduled attached but must be only for information given conditionally repayable.

With the minor edits and need to transition – we probably wont see this officially processed until Monday but certainly comfortable for you to indicate to ISED how we are proceeding to amend.

Thanks
Jeanetta

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Thursday, September 19, 2024 3:02 PM
To: Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Subject: FW: Moltex amendment

Hi Jeanetta,
As discussed, please see below and attached for the proposed Moltex amendment docs. Please let me know if you have any questions or concerns – thanks
Josh

From: Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>
Sent: Thursday, September 19, 2024 1:34 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>
Subject: RE: Moltex amendment

Hi Josh,
Shauna has just asked me to send the revised documents to you to continue the approval process. The project has been transitioned for approval:
https://capri.crm3.dynamics.com/main.aspx?appid=21e8eeab-b88a-ec11-8d20-0022483d0b7f&newWindow=true&pagetype=entityrecord&etn=egcs_fc_decision&id=d3f0a97c-8c76-ef11-ac20-002248b0ed1b&data=%257B%257D&lid=1726753198868

The letter is attached for your review.
Melinda

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Thursday, September 19, 2024 1:04 PM
To: Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>
Cc: Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>
Subject: RE: Moltex amendment

Thanks Melinda – have been working with MJ and Shauna on a couple tweaks. Expect a few changes to the amendment and SoW
Josh

From: Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>
Sent: Thursday, September 19, 2024 11:02 AM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Cc: Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>
Subject: FW: Moltex amendment

Importance: High
Hi Josh,
The amendment for the above noted project is ready to proceed. The project has been transitioned for approval: https://capri.crm3.dynamics.com/main.aspx?appid=21e8eeab-b88a-ec11-8d20-0022483d0b7f&newWindow=true&pagetype=entityrecord&etn=egcs_fc_decision&id=d3f0a97c-8c76-ef11-ac20-002248b0ed1b&data=%257B%257D&lid=1726753198868

The letter is attached for your review.
Melinda

From: Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>
Sent: Thursday, September 19, 2024 11:00 AM
To: Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>
Subject: RE: Moltex amendment

I have approved the amendment in CAPRI. The letter looks good to me.

Heath

From: Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>

Sent: Thursday, September 19, 2024 10:40 AM

To: Heath Johnson <Heath.Johnson@acoa-apeca.gc.ca>

Subject: FW: Moltex amendment

Hi Heath,

The amendment for the above noted project is ready to proceed. The project has been transitioned for approval: https://capri.crm3.dynamics.com/main.aspx?appid=21e8eeab-b88a-ec11-8d20-0022483d0b7f&newWindow=true&pagetype=entityrecord&etn=egcs_fc_decision&id=d3f0a97c-8c76-ef11-ac20-002248b0ed1b&data=%257B%257D&lid=1726753198868

The letter is attached for your review.

Merci / Thank you / Woliwon / Wela'lin,

Melinda Scott

(pronouns/pronoms: she/her/elle)

Account Assistant | Contract Management Team

Atlantic Canada Opportunities Agency | Government of Canada

melinda.scott@acoa-apeca.gc.ca | Tel: 506-476-8901 | Toll Free: 1-800-561-4030 |

TTY: 7-1-1

Adjointe aux comptes | Equipe de gestion des contrats

Agence de promotion économique du Canada atlantique | Gouvernement du Canada

melinda.scott@acoa-apeca.gc.ca | Tél. : 506-476-8901 | Sans frais : 1-800-561-4030 |ATS: 7-1-1

Respectfully acknowledging that I live and work on the traditional, ancestral and unceded territories of the Wolastoqiyik, Mi'kmaq and Peskotomuhkati People.

Reconnaissant respectueusement que je vis et travaille sur les territoires traditionnels, ancestraux et non cédés des peuples Wolastoqiyik, Mi'kmaq et Peskotomuhkati.

From: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>

Sent: Thursday, September 19, 2024 10:39 AM

To: Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>

Subject: RE: Moltex amendment

Thank you Melinda. Letter should be good to go. Can you start the process of moving the amendment and amendment letter up the line for signature? Thanks!

From: Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>

Sent: Thursday, September 19, 2024 10:19 AM

To: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>

Subject: RE: Moltex amendment

Hi Shauna,

The letter is ready for your review: [Home - 225246 \(acoa-apeca.gc.ca\)](https://acoa-apeca.gc.ca)

Melinda

From: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>

Sent: Thursday, September 19, 2024 9:44 AM

To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>; Melinda Scott <Melinda.Scott@ACOA-APECA.GC.CA>

Cc: Martha Jo Hoyt <MarthaJo.Hoyt@ACOA-APECA.GC.CA>; Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>

Subject: RE: Moltex amendment

No problem, Josh. I've made the changes in the amendment.

Melinda – can you make drafting this amendment letter a priority this morning?

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>

Sent: Thursday, September 19, 2024 7:50 AM

To: Shauna Clark <Shauna.Clark@ACOA-APECA.GC.CA>
Cc: Martha Jo Hoyt <MarthaJo.Hoyt@ACOA-APECA.GC.CA>; Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>

Subject: Fwd: Moltex amendment

Hi Shauna,

I was able to meet with Kalie late yesterday and walk her through our rationale on the amendment. We had a good discussion and she had some input that has been incorporated below.

Could I ask you to please update the amendment in CAPRI so we can start moving it through the approval process? Kalie is only here until early afternoon I think and so would like to put a rush on it. I'll speak to Heath and Jeanetta so they're in the loop and ready for it.

Thanks again for all your help on this!

Josh

Sent from my iPhone

Begin forwarded message:

From: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@acoa-apeca.gc.ca>
Date: September 18, 2024 at 5:52:18 PM ADT
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>, Jeanetta Hill <Jeanetta.Hill@acoa-apeca.gc.ca>
Cc: Krista Hicks <Krista.Hicks@acoa-apeca.gc.ca>, Crystal Hawkes <Crystal.Hawkes@acoa-apeca.gc.ca>, Roger Miranda <Roger.Miranda@acoa-apeca.gc.ca>
Subject: RE: Moltex amendment

I think this is much clearer, Josh. We're good to proceed.

Thank you,

Kalie

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Wednesday, September 18, 2024 5:34 PM
To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Cc: Krista Hicks <Krista.Hicks@ACOA-APECA.GC.CA>; Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>; Roger Miranda <Roger.Miranda@acoa-apeca.gc.ca>
Subject: RE: Moltex amendment

Thanks for the timely feedback, Kalie. Following our conversation, I've added the highlighted text below which I hope reflects our discussion.

If you're comfortable with this language, I'll ask the team to move ahead with circulating the amendment for approval in CAPRI.

Please let me know if you have any additional questions or concerns

– thanks

Josh

From: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>
Sent: Wednesday, September 18, 2024 4:14 PM
To: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>; Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Cc: Krista Hicks <Krista.Hicks@ACOA-APECA.GC.CA>; Crystal Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>; Roger Miranda

<Roger.Miranda@acoa-apeca.gc.ca>
Subject: RE: Moltex amendment
Thanks again for the discussion, Josh.

Kalie

From: Josh Jenkins <Josh.Jenkins@acoa-apeca.gc.ca>
Sent: Wednesday, September 18, 2024 12:42 PM
To: Kalie Hatt-Kilburn <Kalie.Hatt-Kilburn@ACOA-APECA.GC.CA>;
Jeanetta Hill <Jeanetta.Hill@ACOA-APECA.GC.CA>
Cc: Krista Hicks <Krista.Hicks@ACOA-APECA.GC.CA>; Crystal
Hawkes <Crystal.Hawkes@ACOA-APECA.GC.CA>; Roger Miranda
<Roger.Miranda@acoa-apeca.gc.ca>
Subject: Moltex amendment

Hi Kalie,
In advance of our discussion later this afternoon regarding

I'd like to share the language that's being drafted so you can get a sense for what we're proposing, and to allow you to zero in on any potential areas where you have questions or concerns.

Amendment Description:

This amendment serves to rescope this project to accurately reflect total project costs of

Eligible project costs, ACOA assistance and ACOA's assistance rate remain unchanged.

Rationale for Amendment:

This project, as evaluated, involves the client, Moltex Energy Canada Inc. (MEC), demonstrating their WASTE To Stable Salt

- s.20(1)(b)
- s.20(1)(c)
- s.20(1)(d)
- s.21(1)(b)
- s.21(1)(c)

(WATSS) technology at an industrial scale, clarifying the commercial viability of Moltex's proprietary technology, which converts used CANDU fuel (spent fuel), or "hot cells", into recycled fuel usable in Moltex's advanced Small Modular Reactor (aSMR) technology, the Stable Salt Reactor - Wasteburner (SSR-W), thereby reducing the cost, volume and toxicity of spent nuclear waste while producing low/no carbon electricity at low-cost. Project costs are largely attributed to the cost of the "hot cell" demonstrations taking place. At the time of evaluation, ACOA knew that the client had received approval for Innovation Science and Economic Development (ISED) funding,

under their
Strategic
Innovation
Fund (SIF).

ACOA's
understanding
then was that
the ACOA
funded costs
were
complementary
to, and working
in direct
conjunction
with SIF's
ongoing
project
financing of
MEC's broader
R&D.

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)

s.21(1)(c)

The Agency has been working in close coordination with SIF officials in recognition of the shared support for overlapping project activities. To better account for and track the interplay of ACOA, SIF and MEC contributions to the larger R&D project, and to mitigate against the potential risk of overpayment, an amendment is required to rescope the project to reflect total project costs of

- s.20(1)(b)
- s.20(1)(c)
- s.20(1)(d)
- s.21(1)(b)
- s.21(1)(c)

ACOA's contribution and assistance rate will remain unchanged and will remain focused on the WATSS technology. Other project work outside of this narrow scope, while part of the overall MEC technology development and part of the overall Statement of Work, is not being funded by ACOA, even though the work is needed to validate WATSS technically and commercially. MEC has funding arrangements with SIF that encompass a broader perspective of work that covers a longer timeframe than this specific

s.20(1)(b)

s.20(1)(c)

s.20(1)(d)

s.21(1)(b)

s.21(1)(c)

agreement with
ACOA.
This is a two-
way
amendment
and the
delegated
signing
authority falls
under the Vice-
President of
ACOA NB.

See you at 3pm,

Josh Jenkins

Director, Innovation, Trade & Business Growth

Atlantic Canada Opportunities Agency / Government of Canada

Josh.Jenkins@canada.ca / Tel: 506-851-3626/ Cell: 506-227-9520 /

TTY:1-877-456-6500

Directeur, Innovation, commerce et croissance des entreprises

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