

From: [MacLean, Heather](#)
To: [Burt, Paula](#); [Mullaley, Julia](#)
Cc: [Browne, Joe](#)
Subject: Info for distribution to Cabinet for MF conversation this afternoon
Date: Monday, September 28, 2015 11:02:08 AM
Attachments: [Communications Approach for MF Project Update 2015 Sept 27 \(2\).docx](#)
[MF Construction Key Facts Sept 2015.docx](#)
[MF Media Tour for Sept 28 and 29 Final Agenda.docx](#)
[MF Progress Update Infographic Sept 27 2015.pdf](#)
[MFP - Benefitting our Province Infographic Final July 2015 data.pdf](#)
[Muskrat Falls Investing in our future Sept 27 final.docx](#)
[Muskrat Falls Project Update QandAs Sept 27 final \(2\).docx](#)
[NAT005 NL Energy Summary Report.pptx](#)

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SCHEDULE FOR MUSKRAT FALLS PROJECT UPDATE

Sept 28	Sept 29	Sept 30	Oct 1	Oct 2
<p>Day one media tour</p> <p>Full technical briefing of project progress from LCP Project Management Team</p> <p>Briefing meeting with IE/GOC to provide update</p> <p>Call to Emera (EM)</p>	<p>Day two of media tour</p> <p>Cost update for media at MF site (Ed Martin)</p> <p>Issue News Release</p> <p>Post materials to website</p> <p>Targeted media interviews: CBC and NTV</p> <p>Note to Nalcor Boards/LT</p> <p>Email to LCP & Nalcor employees</p>	<p>Targeted media calls with Ed: VOCCM, Open Line (as required)</p>	<p>Other: Resource Assessment released</p>	

Muskrat Falls Project**MF Project Key Facts and Figures – September 2015****Employment:**

- Significant employment benefits from the project are being realized across the province. In 2015, employment on the project peaked at just over 5,100 people and 85% of those workers were residents of Newfoundland and Labrador.
- In July 2015:
 - 5,169 people were working on the Muskrat Falls Project across Newfoundland and Labrador.
 - 4,355 residents of Newfoundland and Labrador were employed on the project, representing over 85% of the total persons employed.
 - There were 4,266 people working in Labrador, of whom 1,221 were Labrador residents. Of Labrador residents, 492 self-identified themselves as a member of a Labrador Aboriginal group (about 40%) with 208 of those self-identified as a Labrador Innu.
- There's no doubt that we've seen tremendous progress on the project to date, and we fully expect that to continue into the final years of construction.
- Local contractors and businesses, colleges, organizations in Labrador are helping to build the skilled workforce in the region and are helping to make this project a success in Labrador.
- The economic and employment benefits from this development will be far reaching, generating about \$2 billion dollars in income to labour and business, with over 500 million dollars of this to be earned by Labradorians and Labrador-based businesses.
- More than 12 million hours have been worked in the province to date – that's about 6,000 person-years, earning Newfoundlanders and Labradorians approximately \$640 million in estimated wages.

Economic:

- Since construction began, the project has fostered tremendous economic benefits for businesses and labour in Newfoundland and Labrador, with more than \$900 million invested in around 500 businesses in the province since January 2013.
- Total expenditures for the Muskrat Falls Project were approximately \$144 million in July 2015. This included almost \$28 million to Newfoundland and Labrador businesses.
- Each week around \$9 million is invested with NL businesses.

MF Project Current Construction Update:Muskrat Falls

- Concrete production to date ~ 127,000 m3
- Concrete work on spillway piers with 27 concrete pours having taken place
- Earth stabilization program continuing on North Spur; Geotechnical conditions are proving to be favorable
- Manufacturing continuing on Turbines and Generators (TG) and gates
- Clearing for the reservoir is more than 70% complete

LTA:

- HVac construction continuing:
 - 66% towers erected
 - 79% towers assembled
 - 93% foundations installed
 - 40% of conductor strung

LIL:

- HVdc construction:
 - 10% of towers erected
 - 40% towers assembled in Labrador with tower assembly anticipated to start on the island in October
 - 40% foundations installed in Labrador

HVdc Specialities:

- Earthworks completed at both transition compounds (Shoal Cove and Forteau).
- Civil Works contract is in place with H.J. O'Connell for the Synchronous Condensers buildings, foundations, etc. Construction is under way at Soldiers Pond.
- Construction is well underway at Dowden's Point and L'anse au Diable grounding stations. H.J. O'Connell is contractor for the work. Plan to complete both breakwaters this year.

Strait of Belle Isle:

- All 6 Horizontal Direct Drilled holes completed (Forteau side ~1300 M Shoal Cove ~2200 M)
- Of the 3 Sub sea cables (each 30 km) 2 are complete and the 3rd is ~ 80% complete
- SOBI land cable arrived in the Strait from Japan and first SOBI land cable installed in Shoal Cove
- Subsea cables are on target for installation 2016 – one year schedule buffer

Muskrat Falls Site Visits and Tour

Travel Dates: September 28-29, 2015

Monday, September 28

- 8:00 am Arrive at airport hangar in St. John's
Location: Hangar 1, Shell Aerocentre, RCAF Road, St. John's (Tel. 576-4615)
Please note: This is the Torbay Road side of St. John's Airport
Website: <http://www.tasifbonetwork.com/ContactUs.html>
- 8:40 am Flight departs for Happy Valley-Goose Bay
- 10:00 am Arrive at Happy Valley-Goose Bay
Snacks to go provided
- 10:10 am Depart for Muskrat Falls site
- 11:10 Arrive at Muskrat Falls Accommodations Facility
- 11:15-12:00pm Muskrat Falls Project work site and tour overview, highlighting construction activities and what's currently happening across the work sites.
Paul Harrington, Project Director, Lower Churchill Project
Scott O'Brien, Project Manager - Muskrat Falls Generation
Location: Northern Lights Theatre
- 12:00-12:45 Lunch provided in dining hall
- 12:50 pm Depart for tour of Muskrat Falls construction sites, including: HVdc transmission towers, spillway, powerhouse, switchyard and converter station.
- 3:20 pm Bus departs construction site for Accommodations Facility
- 3:35 pm Stop at Accommodations Facility to provide time to upload footage and file stories
- 4:00 pm Depart Accommodations Facility for Goose Bay
- 5:00 pm Arrive at hotels in Goose Bay

Tuesday, September 29

- 8:00 am Pick up at Hotels in the following order:
1. North 2
2. North 1
3. Royal Inn and Suites
Depart on bus for travel to North Spur
LCP team to bring luggage and bring it to airport
- 8:45 am Arrive at North Spur
- 8:45-9:30am Tour of North Spur
Paul Harrington, Project Director, LCP
Robert Woolgar, Deputy Project Manager – Muskrat Falls Generation
Mark Turpin, Area Construction Manager – North Spur
- 9:30 - 10:20 am Flyover of construction sites in helicopter. Return to Accommodations Facility
- 10:45-12:00 pm Visit additional sites at Muskrat Falls
Ed Martin, CEO Nalcor Energy
- 12:00 pm Arrive at chopper pad at KDR for travel to airport in Goose Bay by helicopter
- 12:30 pm Arrive at Woodward's hangar
- 1:00 pm Depart for St. John's
- 3:00 pm Arrive St. John's - Location: Hangar 1, Shell Aerocentre,

Contact Information:

Karen O'Neill – Communications Manager, LCP – 690-2012


Janine McCarthy – Senior Communications Officer, LCP – 631-0056

Please note:

- 1. Personal protective equipment (PPE) is required to be worn at all construction sites.**
- 2. Nalcor will provide safety vests, gloves, safety glasses and a hard hat.**
- 3. Participants will complete a safety orientation at each work site location.**
- 4. Safety boots must be worn at all construction sites and must be steel-toed, over the ankle boots and be CSA approved (green triangle).**
- 5. Long-sleeved shirts and long pants are required for all Muskrat Falls construction sites.**
- 6. A picture ID is required.**

OUR PROJECT, OUR BENEFITS

824 MW MUSKRAT FALLS GENERATING FACILITY

70% of reservoir cleared 

84% of spillway concrete for river diversion complete

1,600 KM OF TRANSMISSION LINES


Muskrat Falls - Churchill Falls

79%

93%

100%

Labrador - Island Link

16% of transmission towers are assembled 

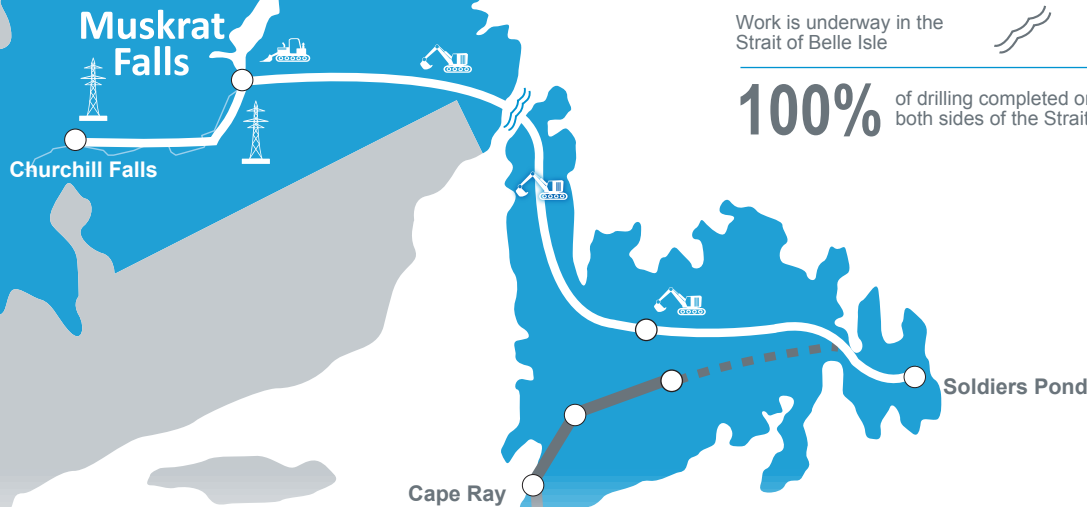
17% of the foundation assembly and installation completed

40% of right of way clearing completed 





35 KM MARINE CABLE CROSSING

Work is underway in the Strait of Belle Isle 

100% of drilling completed on both sides of the Strait




Did you know?

-  The powerhouse at Muskrat Falls will be 90 metres tall. That's as tall as the Peace Tower on Parliament Hill in Ottawa.
-  More than 450,000 m³ of concrete will be poured in the Muskrat Falls powerhouse and spillway.
-  Transmission lines will include 4,560 towers and 7 million metres of wire. That's enough to stretch from St. John's to Lima, Peru.
-  The total weight of all tower and foundation steel is approximately 55 million kilograms. That's roughly twice the weight of the Hibernia topsides.

Benefiting Newfoundlanders and Labradorians

 **4,355** PEOPLE FROM OUR PROVINCE WORKING ON THE PROJECT

 **85%** of the project workforce are NEWFOUNDLAND AND LABRADOR RESIDENTS

 **APPROXIMATELY \$640 MILLION** in estimated wages to Newfoundland and Labrador residents

 **OVER \$900 MILLION** to Newfoundland and Labrador business

OVER 12 million hours worked 

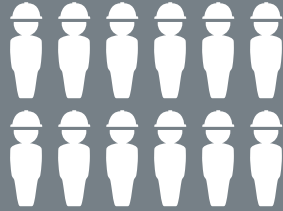
WORK IS ONGOING
at approximately 100 different locations across the province

Our province will be powered by **98% RENEWABLE ENERGY** 

Muskrat Falls: Our Project, Our Benefits



> 12M hours
worked since start
of construction



Approximately
5,100 people
working on the
project at peak

> 537 women
from NL



4,355
NL residents
working on
the project

85%
of project workforce

492 Aboriginal
NL residents



\$900M invested
in NL business
since start of
project construction

\$640M in
estimated wages
to NL residents

** Figures above for July 2015 and project to date*

Investing in our future with Muskrat Falls

We're making great progress with the Muskrat Falls Project and it remains the best option to meet our electricity needs in our province.

Power Independence:

Managing our resources. Setting the stage for Newfoundland and Labrador, the Muskrat Falls development will allow the province to manage its own energy and economic future without relying on others to meet our power needs.

Transforming our province. Shaping our economic and energy landscape, Muskrat Falls will transform our province from an economy dependent on non-renewable resources to one built on renewable, sustainable energy resources.

Owning our assets. Muskrat Falls Project will be paid off in 35-40 years. Unlike operating the oil-burning Holyrood plant and paying money to buy fuel (essentially renting) with Muskrat Falls we are paying ourselves for our electricity, like buying a house.

Jobs and Benefits:

Driving our economy. Construction of the Muskrat Falls Project is employing over 4,000 residents of our province and injecting some \$9 million into the local economy each week. It's driving our economy today and will drive it for the future.

Investing in our province's future. With Muskrat Falls we are investing in an asset we own, returning value and cash flow in excess of \$60 billion to the people of the province over the 50-year life of the project. Money that will ensure our province's schools, hospitals, roads and electricity system will be the best that they can be for our children and their children.

Muskrat Falls makes sense. Aside from meeting our growing energy needs, we are creating jobs and benefits for the people of our province, diversifying our economy, stabilizing our electricity rates, and returning significant revenue to our province. We will also shut down the 45-year-old oil-burning Holyrood plant, eliminating greenhouse gas emissions.

Investing in Clean Energy:

Renewable energy. We are on track to make our province a global leader in clean energy, with more than 98% of our province's energy generated from renewable sources.

Muskrat Falls Project Update

Question & Answer – September 27, 2015

ASTALDI AND SCHEDULE

- 1. We've been hearing for some time that Astaldi is behind schedule and not meeting their targets, and there was speculation when they were awarded this contract that a foreign company wouldn't be able to get the job done. Now that very thing is costing taxpayers. Is Astaldi going to be held accountable for that? Wouldn't it be better to just get a new contractor?**

Astaldi's work got off to a slow start, but things have turned around and this summer there has been significant progress made. Our management team, with Astalidi, has put a lot of extra effort in and we are seeing the results of this work. Since the spring, Astaldi has been placing concrete at very high rates. We are pleased with this progress.

We know that this is a manageable situation and it is being properly addressed and managed by our project teams. We will continue to ensure they stay on track.

- 2. Muskrat Falls accounts for almost half of the total project budget and it remains behind schedule. How can you be sure taxpayers are protected from overruns and delays?**

Overall construction on the project is progressing well and the majority of the work is on track. The ability to bring power to the island remains on track for 2017, and Churchill Falls recall power and market purchase of power will be available via Muskrat Falls to displace Holyrood in 2017 and beyond. We will not have any issue meeting the province's power needs in 2017 and beyond. We are working right now to assess the impact on schedule.

The powerhouse has both Astaldi's and Nalcor's full attention. We are diligently managing the project on behalf of people of the province and we are working closely with our contractors through every step to ensure project costs and schedule are effectively managed.

- 3. Is the schedule for first power possible/How far behind is the project? How much will the schedule delays cost ratepayers/the government?**

Construction on the project is progressing well and the majority of the work is on track. The ability to bring power to the island remains on track for 2017, and Churchill Falls recall power and market purchase of power will be available via Muskrat Falls to displace Holyrood in 2017 and beyond. We will not have any issue meeting the province's power needs in 2017 and beyond. We are working right now to assess the impact on schedule but the delays we encountered at the Muskrat Falls powerhouse will mean a shift in first power into 2018.

4. Are these cost and schedule slippages the result of Astaldi's failed attempt to build a dome over the powerhouse?

Thousands of activities are ongoing and being managed by the contractor every day as part of their normal project management of their work. The slippage in the work completed at the powerhouse and intakes at Muskrat Falls is not a result of one single factor.

The cover structure was always meant to be a temporary structure. Astaldi Canada used the existing cover structure until it was no longer useful, and as planned, the remaining structure is now being dismantled to enable construction progress to continue in the powerhouse.

5. How will you make up the schedule for the Muskrat Falls generating facility?

We are working right now to assess the impact on schedule. Overall, construction on the project is progressing well and the majority of the work is on track.

The ability to bring power to the island remains on track for 2017, and Churchill Falls recall power and market purchase of power will be available via Muskrat Falls to displace Holyrood in 2017 and beyond. That will be the first time that the island will be connected to Labrador and the North American grid. We will not have any issue meeting the province's power needs in 2017 and beyond.

6. How are you tracking progress on the project? A recent blog said that you are a lot further behind than you are admitting.

Construction progress is tracked and monitored daily by our project management team. This information is reviewed by the Independent Engineer and the Oversight Committee. In addition to ongoing meetings and reports provided to the IE and OC, both of these groups make site visits to the various work sites and regularly report on the progress.

7. The last cost update was over a year ago. Why has it taken so long to provide an update?

Cost management is a priority for the Muskrat Falls Project and it is important to proactively manage costs for ratepayers in Newfoundland and Labrador. Before an update could be provided, several large contracts had to be negotiated and awarded. Given these contracts are now in place for the majority of the work, we are in a position to provide an update.

COSTS/RATES

8. Since the Muskrat Falls Project was sanctioned, we've seen cost estimates increase from \$6.2 billion, to \$6.99 billion and now another \$700 million to \$7.65 billion. Can we expect to see these additional \$500 million plus increases for the remaining years of construction?

The capital cost increases that this project faces are no different from those experienced by the other large projects recently completed and still underway in the province and indeed across

Canada. Cost of contracts, labour, escalating costs have been a consistent and ongoing issue. We are not immune to that.

To date we have overcome some significant challenges and we are well into the construction phase of the project. Engineering and procurement is essentially completed. A significant percentage of materials is ordered and on the ground. With this in place this means the market risk that caused most of these increases are largely behind us.

9. How confident are you that costs will not continue to increase at this rate? Can you guarantee people of the province that costs will not continue to increase at this rate until 2017-18?

Since sanction, detailed engineering for the Muskrat Falls Project has advanced significantly and is now more than 98% complete. Almost all major contracts have been awarded or are through advanced evaluation for almost all of the contract costs. A significant percentage of materials is ordered and on the ground. While we cannot rule out future cost increases, we are confident that our biggest risks are now behind us.

10. With all the engineering work nearly complete and almost all of the contracts awarded, how is it possible that Nalcor made over \$600 million in changes to the project on top of the \$800 million increase last year?

You don't have to look far beyond every mining and oil and gas development in this province to see that every project is facing similar issues. Cost of contracts, labour, escalating costs have been a consistent and ongoing issue. We are not immune to that. These types of cost changes are normal for any large-scale construction project and are being experienced across Canada on other large-scale construction projects which have recently been completed or are underway.

11. You say there are only a couple of contracts left to award. Why release the costs now instead of waiting until all of the contracts are awarded?

Before an update could be provided, several large contracts had to be negotiated and awarded. We did not want to impact the negotiation process for these contracts and wanted to ensure we secured the best value for ratepayers. Given these contracts are now in place for the majority of the work, we are in a position to provide an accurate update with more information being known.

12. Where will the money come from to pay for cost increases? Will the Provincial Government have to borrow the money?

Muskrat Falls is an investment by the people of the province for our future. It is going to create power and economic independence that we haven't seen in this province in for over 50 years. The return on that investment, including the savings that we will realize, will provide significant benefits to our province for generations to come.

Nalcor will seek the money as equity from the Provincial Government. The government will make a decision on the best approach for financing.

13. What other factors could potentially impact the cost down the road?

Engineering and procurement is essentially completed. A significant percentage of materials is ordered and on the ground. With this in place this means the market risk that caused most of these increases are largely behind us. We will continue to aggressively manage costs to minimize risk to the electricity consumers.

14. Will this increase our debt – deficit?

The Muskrat Falls Project has been 30 years in the making. This is the right time and right project for our province. Today, we are creating jobs for over 4000 Newfoundlanders and Labradorians who are part of building our future. The project is driving our economy and investing some 9 million dollars each week into the local economy. The return on our investment in Muskrat Falls, including the savings that we will realize, will mean in excess of 60 billion dollars to our province over the next 50 years.

Development of the Muskrat Falls Project will not increase the province's net debt as anything borrowed will be invested in a revenue-generating asset. This asset will generate dividends for the province that will be more than sufficient to service the debt.

15. How much will rates increase because of this cost increase?

With the significant savings and return on investment from this project, it gives the government the flexibility to mitigate rate increases for customers and do what is in the best interest of electricity consumers in our province.

16. What do you say to the ratepayer who can barely afford to pay their electricity bills now – how will they be able to afford their bills with another huge cost increase to the project?

I understand people's concerns of what impact our investments in our electricity system have on their monthly electricity bills. It's important to remember that the cost increase today does not impact the return on the investment we will realize from Muskrat Falls. With the investment we will realize from this project, we have significant flexibility to keep rates low for consumers.

These investments are necessary to ensure we can deliver reliable electricity to residents, and doing nothing is not an option for our province.

17. Will the gov't put in money from the export sales to pay for the increased costs and reduce electricity rates?

Revenue from export electricity sales was not included in the economics of the Muskrat Falls Project. Government will decide on the best way to use the revenue from export sales and can determine if that will be to offset electricity rates.

18. Did you purposefully have low-ball estimates on the work to make the MF project look better than the isolated island so you could get the project sanctioned?

The estimate that was completed prior to the project's sanction in 2012 was developed following normal standard estimating process and was carried out by professional estimators based on the quantities and applying standard industry construction norms.

The Interconnected Island case (i.e., Muskrat Falls Project) was compared to the Isolated Island case. It is important to note that both cases required significant capital intense construction work and the Isolated Island construction and capital cost would have faced exactly the same cost pressures that we are experiencing on the interconnected Island case. A detailed economic analysis of the two cases was completed and reviewed by several independent experts. There was a significant cost difference in the two alternatives. In addition, the analysis performed at that time didn't factor in the value we will receive from our export sales or the additional carbon capture costs that would be incurred from the continued operation of the Holyrood plant.

This is project for many generations. This project will not only mean millions of dollars in savings in fuel costs, it will provide financial and power independence to our province that we haven't had in 50 years.

COSTS AND COST DRIVERS

19. What has caused the cost increases seen on the project to date and could these cost increases have been avoided?

We are making great progress in many areas; however, like many large construction projects in the province and across the country, we are facing cost and schedule challenges and not everything is going exactly as planned. You don't have to look far beyond every mining and oil and gas development in this province to see that every project is facing similar issues. Cost of contracts, labour, escalating costs have been a consistent and ongoing issue. We are not immune to that.

20. You've spent an additional \$120 million in design changes. Why wasn't this need included in the original design? Didn't you know about the conditions?

As with any large-scale construction project, opportunities to make improvements are likely to occur as you move through the engineering and construction phases. That is part of any normal flow for a project of this nature.

We continue to make additional strategic investments in the project to enhance system reliability, increase project productivity and improve safety.

For the transmission line we are building more permanent access roads, adding almost 100 bridges and other infrastructure in challenging terrain in remote areas in interior Labrador. Once the project is in operation this permanent infrastructure will ensure access into very remote locations to enable safe and efficient access to this critical piece of our electrical infrastructure.

We are also adapting our infrastructure to the harsh geotechnical conditions of the transmission line terrain. We've made design enhancement decisions to increase the length, weight and quantity of some equipment to accommodate the extremely tough soil and ground conditions in the province.

ECONOMICS OF THE PROJECT

21. Will you re-run the economics of the project to let us know if this is still the best project?

The development of Muskrat Falls remains the best energy project to meet our electricity needs in this province. This is a project for many generations. This project will not only mean millions of dollars in savings in fuel costs, it will provide financial and power independence to our province that we haven't had in 50 years.

We are meeting our increasing demand for power, shutting down the 45 year old Holyrood plant, eliminating greenhouse gas emissions and will return value and cash flows to our province.

22. With oil prices lower than they were in the original economic analysis for the project, how can you say that this is still the right project? Especially since you won't re-run the economics of the alternatives.

This is a project for many generations. This project will not only mean millions of dollars in savings in fuel costs, it will provide financial and power independence to our province that we haven't had in 50 years.

The development of Muskrat Falls remains the best energy project to meet our electricity needs in this province. It still makes sense. We are meeting our increasing demand for power, shutting down the 45 year old Holyrood plant, eliminating greenhouse gas emissions and will return value and cash flows to our province.

23. We are in a recession and oil prices are at an all-time low. How can we afford this?

The Muskrat Falls Project has been 30 years in the making. This is the right time and right project for our province. Today, we are creating jobs for over 4000 Newfoundlanders and Labradorians who are part of building our future. The project is driving our economy and investing some \$9 million each week into the local economy. The return on our investment in

Muskrat Falls, including the savings that we will realize, will mean in excess of 60 billion dollars to our province over the next 50 years.

24. If the costs continue to rise, how can you sell such expensive power in the markets – no one will pay so much money for our power when they can get it elsewhere for cheaper.

This project is being built to meet our electricity needs in the province first. We are selling our surplus electricity today and we will have more surplus power once Muskrat Falls is in service. The return on our investment in Muskrat Falls, including the savings that we will realize, will mean in excess of 60 billion dollars to our province over the next 50 years. This money will be reinvested in our people, our province, our kids and grandkids.

ACCOUNTABILITY

25. You say you have a team with world class project management experience but you clearly haven't been able to accurately estimate the costs associated with this project. How do you explain that? What changes are you going to make?

Nalcor is accountable to the people of Newfoundland and Labrador—every day we work to secure a strong economic future for our province today and the generations to come.

We are continuously looking for ways to maintain project costs and schedule. And while we've seen some increases in the project costs over the last few years, our team remains focused on delivering the Muskrat Falls Project to Newfoundlanders and Labradorians in an economical and cost-effective way.

26. Who is accountable for these increased costs? Do you think you should step down in light of this mismanagement?

Nalcor is focused on making conscious decisions and investments that are in the best interest of the project and will ensure long-term value to Newfoundlanders and Labradorians from this critical electricity asset.

Astaldi's work got off to a slow start and things are not where we want them to be at this point. But things have turned around and this summer there has been significant progress made. We know that this is a manageable situation and it is being properly addressed and managed by our project teams. We will continue to ensure they stay on track.

27. Just like Hydro's situation last winter, the increased costs are another example of poor planning on behalf of Nalcor. What changes are being made to ensure Nalcor doesn't bankrupt the province?

Nalcor is focused on delivering the Muskrat Falls Project to Newfoundlanders and Labradorians in an economical and cost-effective way that provides the most value for today and for many

generations to come. Engineering and procurement is essential completed. A significant percentage of materials is ordered and on the ground. With this in place this means the market risk that caused most of these increases are largely behind us.

28. Would it be better to stop the project and come back to it when the economic situation of the province has improved?

The Muskrat Falls Project has been 30 years in the making. This is the right time and right project for our province. Today, we are creating jobs for over 4000 Newfoundlanders and Labradorians who are part of building our future. The project is driving our economy and investing some 9 million dollars each week into the local economy. The return on our investment in Muskrat Falls, including the savings that we will realize, will mean in excess of 60 billion dollars to our province over the next 50 years.

OVERSIGHT

29. What role did the Oversight Committee have on setting this cost?

The role of the oversight committee is to review work being undertaken by Nalcor to ensure they are meeting their overall objectives, but the committee is not involved with the setting of costs. Nalcor is the project manager and is responsible for ensuring the project is carried out meeting all approved safety, quality, cost and schedule targets.

30. How are you managing all the work fronts given the project management team is located in St. John's?

While the majority of the project team and support staff is located in St. John's, our key project construction teams for safety, environment, logistics and construction management are located in the field throughout Labrador and on the island. We have over 100 work fronts which extend across the province, across North America and indeed the world and St John's is the best and most efficient place for our home office team where we have centralised the overall project management, planning, cost procurement and reporting. We have dedicated site teams at all our construction sites who are appropriately staffed with experienced Nalcor personnel to manage the work being performed by the contractors in accordance with the contract that has been put in place and executed.

National Public Relations

Newfoundland & Labrador Energy Study Summary Report

September 2015

Prepared by:



N|A|T|I|O|N|A|L



Research Objective: Assess public perception regarding Muskrat Falls hydroelectric development



- Random eight (8) minute telephone survey
- Residents of Newfoundland & Labrador, 18+ years of age



- 400 completes
- ± 4.9 margin of error



- Data collected September 22-23, 2015

To direct its clients upcoming public announcement National PR commissioned Corporate Research Associates Inc. (CRA) to conduct a random telephone survey aimed at exploring Newfoundland & Labrador residents' perceptions of the Muskrat Falls hydroelectric development.

A general population telephone study was conducted among 400 residents, 18 years of age and older from across the province. These results were collected over a two day period in September 2015. On average, the survey took approximately eight (8) minutes to complete. Note, overall results were weighted by age, gender and region to reflect the actual distribution of the population. A sample of 400 respondents provides overall results accurate to within ± 4.9 percentage points, 19 times out of 20.

Working documents are appended to this report, including the survey script (Appendix A) and detailed data tables that provide results for each question (Appendix B) across key demographics.



The following highlights are derived from the results of the **Newfoundland & Labrador Energy Study**:

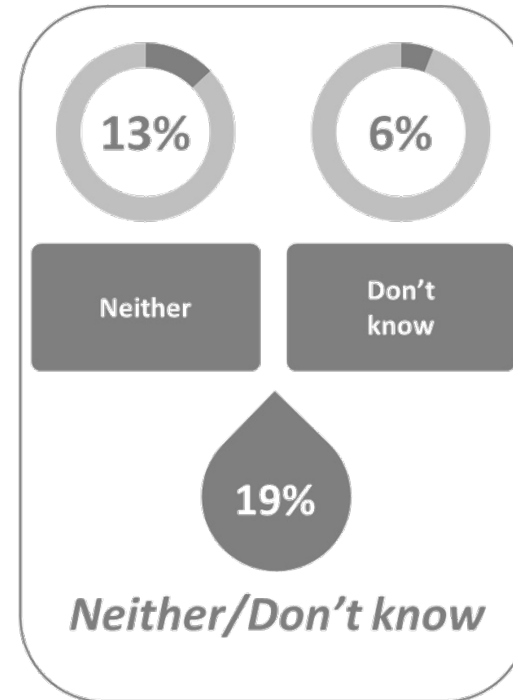
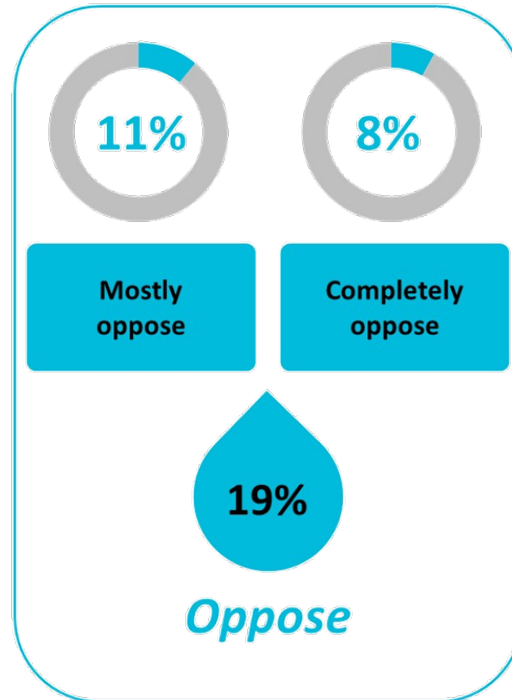
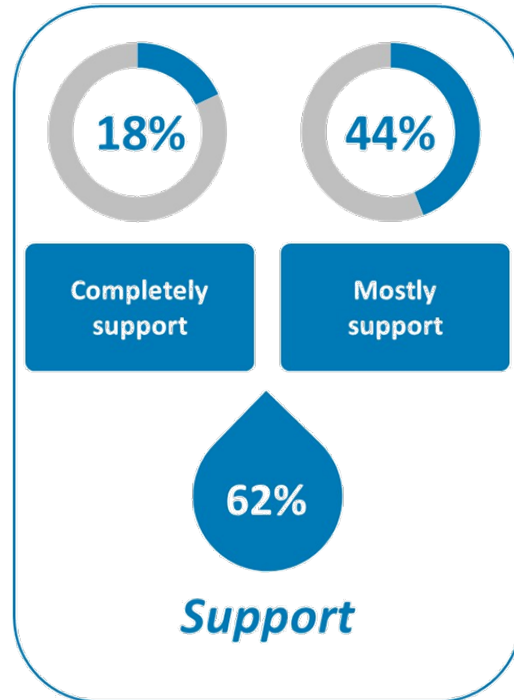
- **Support for the Muskrat Falls Hydroelectric Development project is moderately strong**, with nearly two-thirds of all those surveyed voicing some level of support for the project. Opinions vary somewhat across the province, with support being highest in the western region and lowest in eastern NL. Reasons for support are largely linked to **economic factors**, including **job creation**. Other key considerations for support include recognition of the overall **environmental benefits** of hydroelectricity and views that the project will offer the province **self-sufficiency in terms of its energy consumption**.
- Two in ten residents express some level of opposition towards the development, and opposition is most prevalent among those with lower household incomes or those with lower levels of education. Across the province, opposition is highest in the western region. Reasons for opposition primarily center around **overrun project costs**.
- An equal proportion of residents are likely to oppose the development as to have no clear opinion on the matter. This suggests that public opinion could be impacted by public education on the topic.
- A clear majority recognizes the benefits of Muskrat Falls in **providing clearer, renewable power** and most agree that the project will **provide new market opportunities for electricity sales outside the province**. A similar proportion feels the project is **important to the overall future of the province**.
- Across key messages, findings show two statements most clearly resonate with residents, namely; **'It's important that NL is able to meet its own power needs without relying on others'**, and **'hydroelectricity is a cleaner and more renewable source of energy than oil'**.
- Residents appear somewhat skeptical that the project **will eliminate the province's dependency on oil, improve the long-term affordability of electricity in general, or offer stability in terms of electricity rates**. In fact, residents appear unsure as to the impact the project will have on future electricity costs.
- The vast majority of residents are aware that large construction projects in the province are facing cost increases and are concerned that increased investments in Muskrat Falls could result in higher electricity costs for customers. Reassuring the public that electricity costs will not be impacted by project overruns will be key in reducing opposition towards the development.

Results

- All respondents taking part in this survey were aware of the Muskrat Falls hydroelectric development on the lower Churchill River in Labrador. Overall, support among residents for the project is moderately strong, with nearly two-thirds offering some level of support, and close to two-in-ten being *completely* supportive of the initiative. Support is highest in the western region of NL (68%) and lowest in eastern NL. Males are more likely than females to offer some level of support for the project (68% vs. 56%).
- Two in ten residents (19%) report some level of opposition towards the development, and opposition is most prevalent among those with lower household incomes and residents with lower levels of education. Across the province, opposition is highest in the western region (23%). (Table 5)
- Of note, an equal proportion of residents are likely to oppose the development as not have an opinion on the matter. This suggests that public opinion could be impacted by public education on the topic.

Support or Oppose the Muskrat Falls Hydroelectric Development

Support for Muskrat Falls is high



Q.5: All things considered, do you completely support, mostly support, mostly oppose, or completely oppose the Muskrat Falls hydroelectric development? (n=408)

Support (n=260)

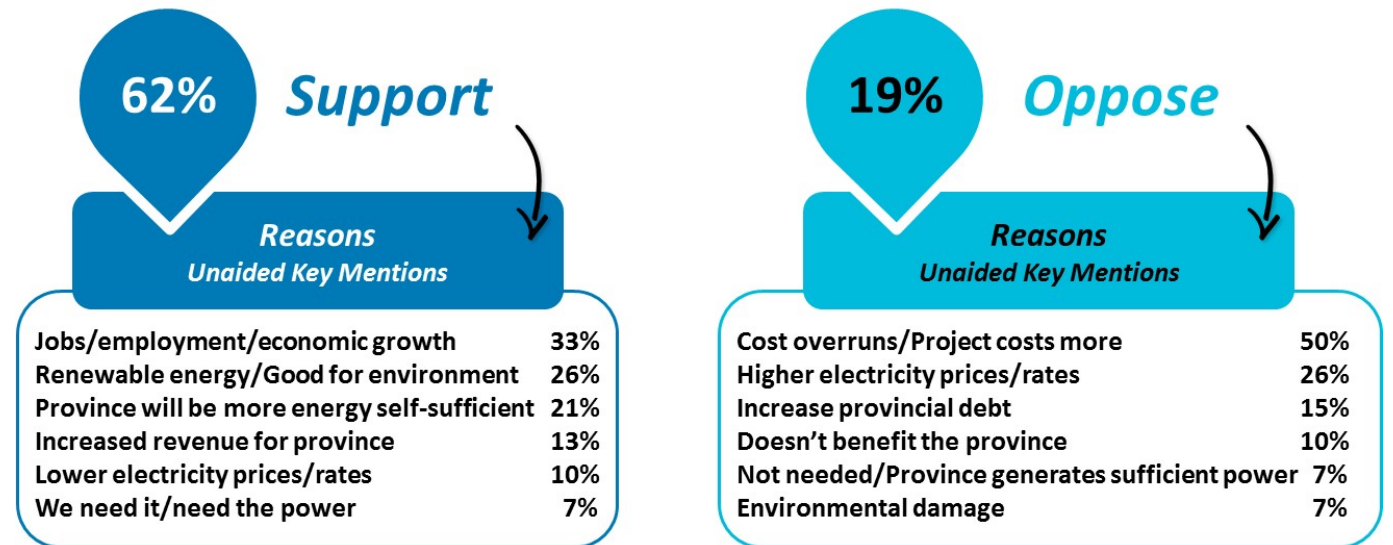
- When asked why they **support** the initiative, residents most commonly noted reasons related to **economic/job growth**, the **environmental benefits of hydroelectricity**, or that the project would **allow the province to become more self-sufficient** in terms of its energy needs.
- Residents in the western region of the province are more likely to cite **economic growth** as the reason for their support compared with residents overall (47% vs. 33%).

Opposition (n=92)

- Alternatively, reasons for **opposition** to the project are generally cost related. Most notably, opposition primarily centers around **development costs in excess of original budget** estimates, with half citing cost overruns as the reason for their opposition. In addition, some indicate they anticipate the project to result in **higher electricity rates**. (Table 6)

Opposition is largely driven by concerns regarding cost overruns

Reasons Support or Oppose the Muskrat Falls Hydroelectric Development



Q.5: All things considered, do you completely support, mostly support, mostly oppose, or completely oppose the Muskrat Falls hydroelectric development? (n=408)

Q.6: [IF 'COMPLETELY SUPPORT' OR 'MOSTLY SUPPORT' IN Q.5] Why do you ['COMPLETELY SUPPORT' OR 'MOSTLY SUPPORT'] the Muskrat Falls hydroelectric development? PROBE: Anything else? (n=260)

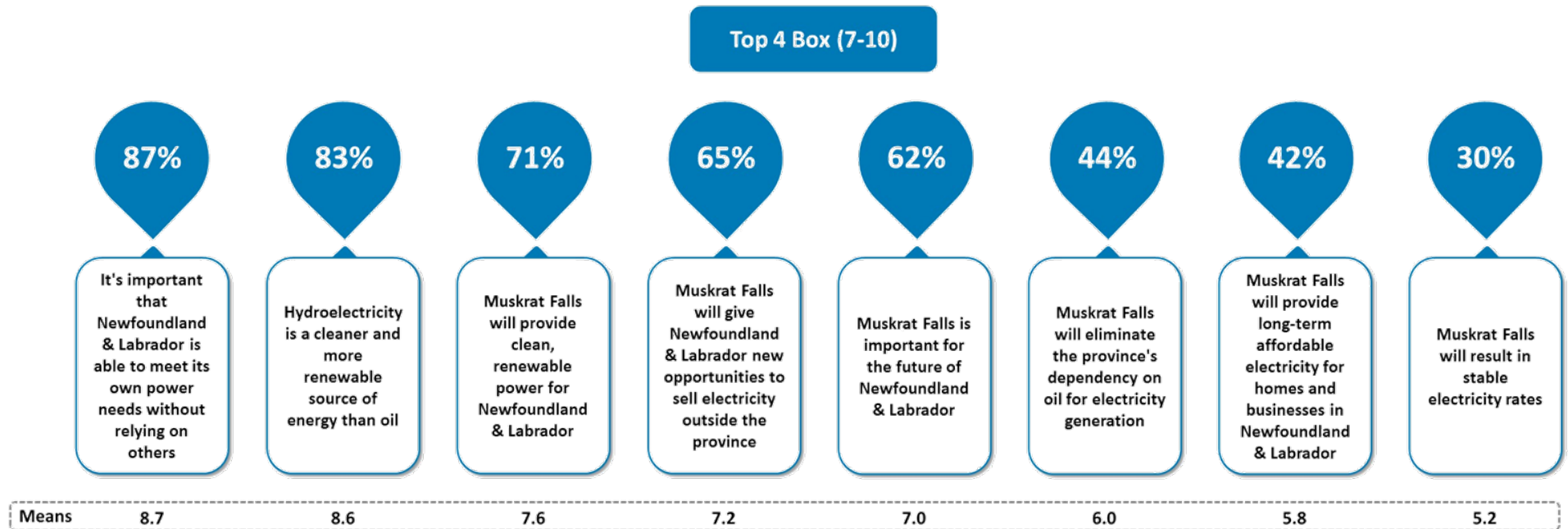
Q.6: [IF 'COMPLETELY OPPOSE' OR 'MOSTLY OPPOSE' IN Q.5] Why do you ['COMPLETELY OPPOSE' OR 'MOSTLY OPPOSE'] the Muskrat Falls hydroelectric development? PROBE: Anything else? (n=92)

- When presented with a number of statement relating to power generation, nearly all residents agree there **is value in the province being able to meet its own power consumption needs** without relying on external providers, and the vast majority views hydroelectric as a **cleaner and more renewable energy source compared to oil**.
- A clear majority recognizes the benefits of Muskrat Falls in **providing clearer, renewable power**. Further, approximately two-thirds agree that the project will **provide new market opportunities for electricity sales outside the province**. A similar proportion feels the project is **important to the overall future of the province**.
- That said, residents appear somewhat skeptical that the project **will eliminate the province's dependency on oil, improve the long-term affordability of electricity in general, or offer stability in terms of electricity rates**.
- Of note, males are more likely than females to recognize **benefits of hydroelectricity over oil** (90% vs. 76%), that the project **will provide clean, renewable power for the province** (77% vs. 66%), or that the project **will eliminate the province's dependency on oil** (52% vs. 37%). (Tables 7a-h)

Statements Regarding Power Generation in Newfoundland & Labrador

Rating on 10-pt Scale: 1=Completely disagree, 10=Completely agree

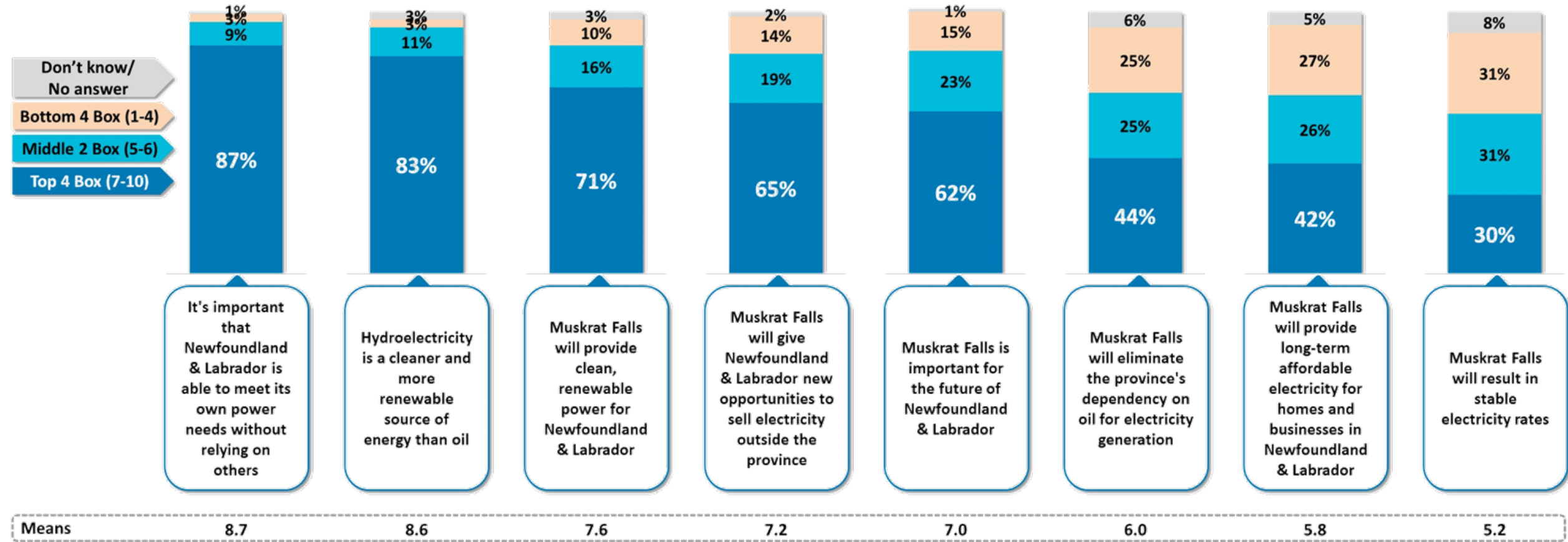
Residents see value in being self-sufficient in terms of energy production and view hydroelectricity as a cleaner and more renewable energy source



Q.7a-h: Thinking about power generation in Newfoundland & Labrador, on a scale of 1 to 10, where '1' is 'completely disagree' and '10' is 'completely agree', to what extent do you agree or disagree with each of the following statements ...? (n=408)
 Note: 'Don't know/No answer' has been removed from the calculation of the mean scores.

Statements Regarding Power Generation in Newfoundland & Labrador

Rating on 10-pt Scale: 1=Completely disagree, 10=Completely agree



Q.7a-h: Thinking about power generation in Newfoundland & Labrador, on a scale of 1 to 10, where '1' is 'completely disagree' and '10' is 'completely agree', to what extent do you agree or disagree with each of the following statements? (n=408)

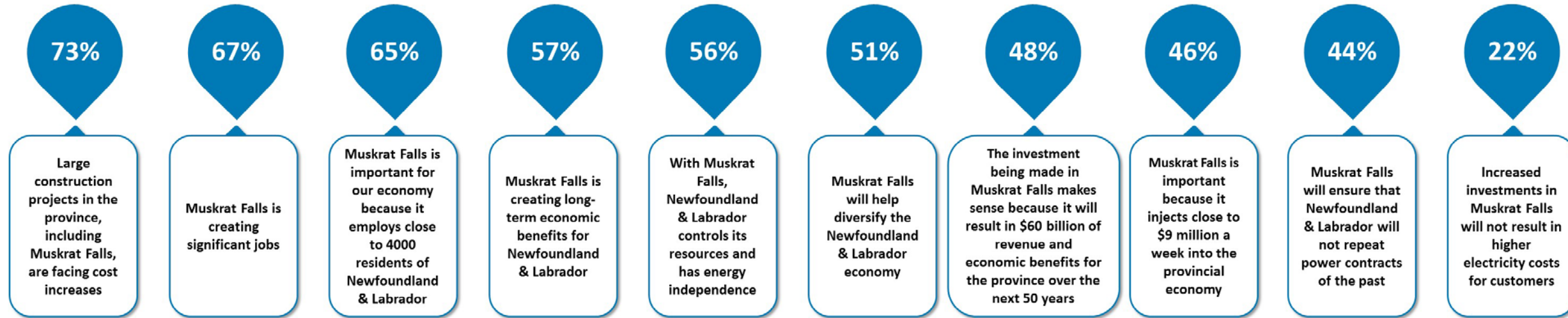
Note: 'Don't know/No answer' has been removed from the calculation of the mean scores.

- When presented with a series of statements regarding the economic impact of the development, findings show a clear majority believes Muskrat Falls brings economic benefits to the province and most residents recognize the importance of Muskrat Falls in terms of job creation. That said, the vast majority (73%), are aware that large construction projects in the province are facing cost increases.
- Opinion is divided as to the impact the project will have on future electricity costs for consumers, with nearly one-half (45%) offering low-levels of agreement (scores 1-4) that this project will not result in higher electricity costs. More importantly, perhaps, findings show that only two in ten believe increased investments will not result in higher electricity costs for customers. (Tables 8a-j)

Statements Regarding Economic Impact of the Muskrat Falls Hydroelectric Development

Rating on 10-pt Scale: 1=Completely disagree, 10=Completely agree

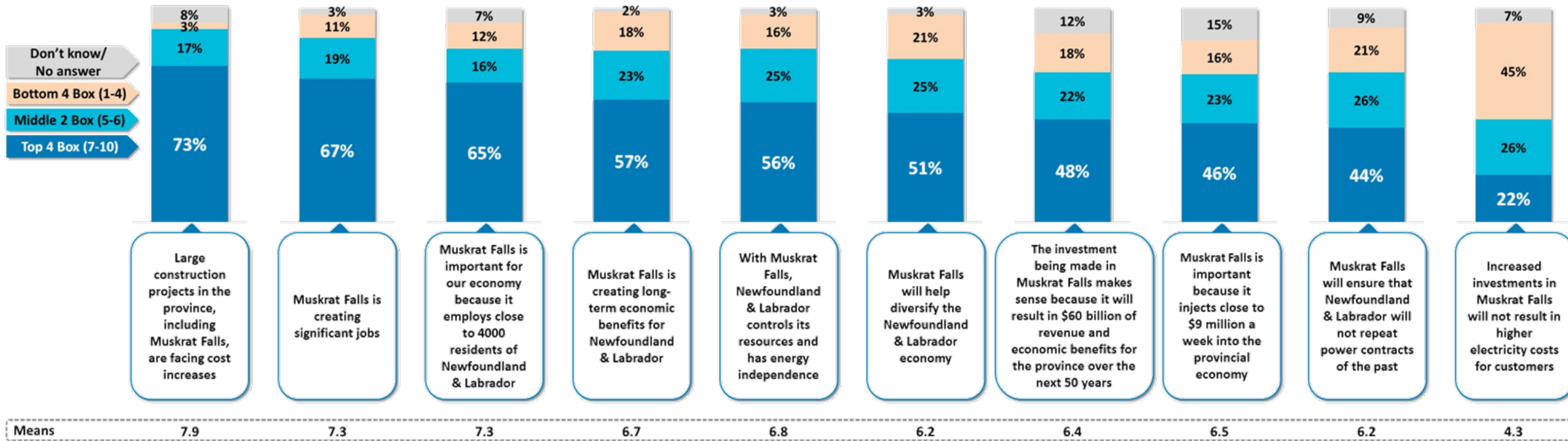
Top 4 Box (7-10)



Q.8a-j: Now, thinking about the economic impact of the Muskrat Falls hydroelectric development, using the same scale of 1 to 10, to what extent do you agree or disagree with each of the following statements ...? (n=408) *Note: 'Don't know/No answer' has been removed from the calculation of the mean scores.*

Statements Regarding Economic Impact of the Muskrat Falls Hydroelectric Development

Rating on 10-pt Scale: 1=Completely disagree, 10=Completely agree



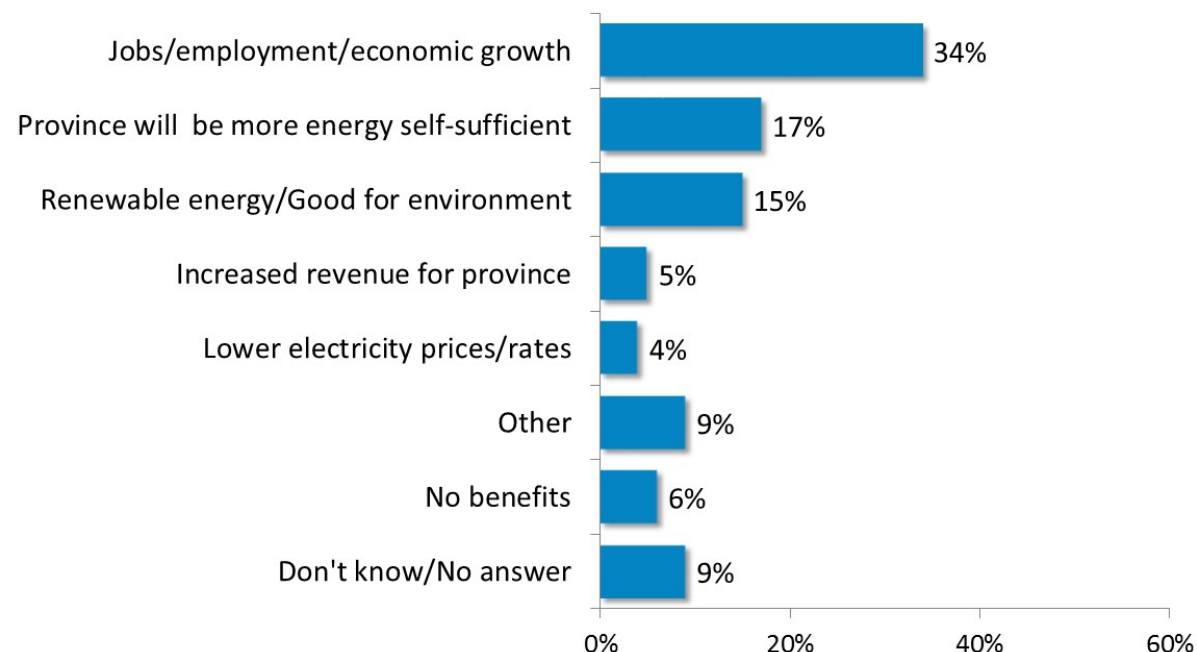
Q.8a-j: Now, thinking about the economic impact of the Muskrat Falls hydroelectric development, using the same scale of 1 to 10, to what extent do you agree or disagree with each of the following statements? (n=408) *Note: 'Don't know/No answer' has been removed from the calculation of the mean scores.*

- Unaided, **economic growth / increased job opportunity** is seen as the greatest perceived benefit of the project to Newfoundland and Labrador. In addition, some believe having the province be **more self-sufficient in terms of its energy consumption** is a primary benefit, or noted the **environmental benefits of this type of energy generation**. Few identified alternative benefits of the project.
- Those living in the western region of the province are more likely than residents overall to cite **economic growth** as the greatest benefit of the project (45% vs. 34%). Females are also more likely than males to cite economic growth as the primary benefit (40% vs. 28%). (Table 9)

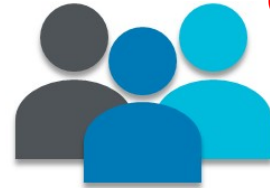
Economic growth is seen as the greatest benefit to NL

Greatest Perceived Benefit of Muskrat Falls Hydroelectric Development

Unaided Key Mentions



Q.9: What do you consider to be the greatest benefit of the Muskrat Falls hydroelectric development to Newfoundland & Labrador? (n=408)



Demographic Profile



Region

St. John's/Avalon	50%
Eastern NL	18%
Western NL	32%



Education

Less than high school	12%
Graduated high school	13%
Some post-secondary	13%
Graduated post-secondary	61%
Refused	1%



Gender

Male	49%
Female	51%



Household Income

Less than \$50,000	24%
\$50,000 to less than \$75,000	18%
\$75,000 or more	47%
Refused/Don't know	11%



Age

18 - 34	15%
35 - 54	44%
55+	38%
Refused	3%

Q.1 Region, Q.2 Gender, Q.3 Age, Q.10 Household Income, Q.11 Education. (n=408)