

Page 1	Page 3
<p>1 (9:07 a.m.)</p> <p>2 CHAIRMAN:</p> <p>3 Q. Good morning, everybody. I understand that</p> <p>4 there are no preliminary matters.</p> <p>5 MS. GLYNN:</p> <p>6 Q. No preliminary matters, Mr. Chair.</p> <p>7 CHAIRMAN:</p> <p>8 Q. And we have a presentation. Minister Darryl</p> <p>9 Shiwak, is that correct, sir?</p> <p>10 MR. SHIWAK:</p> <p>11 A. Yes, it is.</p> <p>12 CHAIRMAN:</p> <p>13 Q. Does he -- he doesn't need to be sworn?</p> <p>14 MS. GLYNN:</p> <p>15 Q. Yes, he does.</p> <p>16 CHAIRMAN:</p> <p>17 Q. Does he need to be sworn?</p> <p>18 MS. GLYNN:</p> <p>19 Q. Absolutely.</p> <p>20 MR. DARRYL SHIWAK, SWORN, EXAMINATION-IN-CHIEF BY MS.</p> <p>21 GENEVIEVE DAWSON</p> <p>22 CHAIRMAN:</p> <p>23 Q. So I'll turn you over to Madam Dawson, I</p> <p>24 presume.</p> <p>25 MS. DAWSON:</p>	<p>1 teaching in Hopedale and Nain, great</p> <p>2 experiences. I think I learned after that</p> <p>3 though, teaching is a bit of a challenge, so -</p> <p>4 - and I always challenge myself to do</p> <p>5 different things, so I moved on and then went</p> <p>6 into recreation, worked in Voisey's Bay and</p> <p>7 then this came up.</p> <p>8 We formed a government after LA and</p> <p>9 decided to take a shot at running for our</p> <p>10 government. The way it works in Nunatsiavut,</p> <p>11 each community has elected officials,</p> <p>12 depending on the size of the community.</p> <p>13 Rigolet has one elected official and one</p> <p>14 mayor, for example, and Nain has two elected</p> <p>15 officials and a mayor. And all these people</p> <p>16 who are elected sit on what we call our</p> <p>17 assembly, which is located in Hopedale.</p> <p>18 There's 18 members right now, including</p> <p>19 the President, Ms. Sarah Leo. We meet six</p> <p>20 times a year and we travel into Hopedale and</p> <p>21 sit and then that's where we do our -- same as</p> <p>22 out here, we do our legal requirements, but on</p> <p>23 a daily basis, I'm either working out of</p> <p>24 Rigolet or I could be travelling to any of the</p> <p>25 different communities or for business like</p>
Page 2	Page 4
<p>1 Q. Thank you. Now, Minister, I'm assuming I'm</p> <p>2 pronouncing your name right? It's Shiwak?</p> <p>3 MR. SHIWAK:</p> <p>4 A. Shiwak, yes.</p> <p>5 MS. DAWSON:</p> <p>6 Q. Okay. Do you want to tell the Board a little</p> <p>7 bit about your own personal background, your</p> <p>8 education and so on, where you're from, that</p> <p>9 kind of thing, please?</p> <p>10 MR. SHIWAK:</p> <p>11 A. Well, I'm Darryl Shiwak from Rigolet,</p> <p>12 Nunatsiavut, on the north coast of Labrador.</p> <p>13 Born -- not born in Rigolet, but born in</p> <p>14 Northwest River, not by choice but when we --</p> <p>15 back when I was a baby, we had to -- parents</p> <p>16 had to fly to Northwest River to have babies</p> <p>17 and fly back in, so I was going to say born</p> <p>18 and raised in Nunatsiavut, but same thing.</p> <p>19 Rigolet is a small community, just over 300</p> <p>20 people, typical of most of the communities on</p> <p>21 the north coast except for Nain and Hopedale.</p> <p>22 My education, I did K to 12 in Rigolet</p> <p>23 then went on to university, did first year in</p> <p>24 Corner Brook and did my degree out here at MUN</p> <p>25 St. John's, Phys Ed teacher. Went back</p>	<p>1 this, I can travel in to St. John's or</p> <p>2 anywhere at all.</p> <p>3 My portfolio right now is Minister of</p> <p>4 Lands and Natural Resources. So anything that</p> <p>5 has to do with mining to wildlife to energy</p> <p>6 issues like what we're dealing with here today</p> <p>7 usually fall under what I do. For example,</p> <p>8 one of the things that we're working on right</p> <p>9 now is we're travelling to all of the north</p> <p>10 coast communities and we sit in front of the</p> <p>11 people. We open ourselves up to the people</p> <p>12 and we have what we call a wildlife</p> <p>13 consultation. We talk about different</p> <p>14 wildlife issues and they actually tell us what</p> <p>15 we are doing good and what we should be doing</p> <p>16 better. So then we take that back and we just</p> <p>17 create our policies based on what the people</p> <p>18 actually tell us. This is an example of some</p> <p>19 of the typical things we do.</p> <p>20 I've been actually around since the</p> <p>21 beginning, 2006. Me and Dan Pottle, he lives</p> <p>22 -- he's our member for Canadian constituency.</p> <p>23 He lives out here in St. John's. We were the</p> <p>24 two longest serving members on Nunatsiavut</p> <p>25 Government, been around since the beginning.</p>

Page 5

1 I've served as Minister of Culture, Recreation
 2 and Tourism, Minister of Education and
 3 Economic Development, First Minister and
 4 currently Minister of Lands and Natural
 5 Resources.
 6 So I've seen many of the issues that face
 7 the north coast, face Nunatsiavut, and I've
 8 experienced -- growing up there, experienced a
 9 lot of the issues as well. So I know most of
 10 the issues, and I guess that's why they have
 11 me appear in front of you today to kind of
 12 present those issues and try to make a case or
 13 try to give you a picture of where we're
 14 coming from by this submission, try to
 15 clarify, I guess, the points we're trying to
 16 make in this submission, why they are
 17 important and I guess just for a bit of
 18 clarity. So I think that's fine.
 19 MS. DAWSON:
 20 Q. That's good.
 21 MS. GLYNN:
 22 Q. Minister Shiwak, if you could just speak into
 23 the mic, move the mic in a little bit closer
 24 to you perhaps.
 25 MR. SHIWAK:

Page 6

1 A. Either one?
 2 MS. GLYNN:
 3 Q. Either one, both are working.
 4 MR. SHIWAK:
 5 A. Okay. I'll sit back here.
 6 MS. GLYNN:
 7 Q. Thank you.
 8 MR. SHIWAK:
 9 A. Okay.
 10 MS. DAWSON:
 11 Q. Minister, some time ago, you filed a report
 12 with the PUB and do you adopt this report as
 13 part of your testimony?
 14 MR. SHIWAK:
 15 A. Yes, I do.
 16 MS. DAWSON:
 17 Q. Now there's a few issues within -- the report
 18 is self-evident. I'm not going to ask him to
 19 read all of it. But, I will ask you to talk
 20 about a few key points that are in the report.
 21 There is -- at line 136, if you would bring
 22 that up, Ms. Gray? Line 136 of the report --
 23 and each -- well, we tried to number each, but
 24 that particular line talks about the average
 25 income in the different communities in

Page 7

1 Nunatsiavut and I'm going to ask you to just
 2 review that chart that's in front of you and
 3 talk a little about the income and what that
 4 means to the community, what -- put the income
 5 in some perspective for us as it relates to
 6 energy costs.
 7 MR. SHIWAK:
 8 A. Okay. If you refer to that chart, you'll see
 9 there's listed for Nain, Hopedale, Makkovik.
 10 Rigolet and Postville are not on it. So those
 11 numbers may be a bit higher than they should
 12 be, just for the fact that you're missing two
 13 communities. The unemployment rate in those
 14 two communities that are missing are quite a
 15 bit higher than the other communities. So
 16 what you're seeing there may be a little bit
 17 high. Having said that, they are lower than
 18 the rest of the province.
 19 Typically in the communities, you do have
 20 a high unemployment rate. Those who are
 21 employed, and may be at the time of this
 22 survey, were probably working as part of the
 23 project or part of a community project that
 24 will give employment for so many months. But
 25 typically, most of the people in the

Page 8

1 communities are off for most of the year, and
 2 a lot of it is not by choice. They get the
 3 work when they can. They make the money that
 4 they can and on what they make, they try to
 5 make a good living, but I guess, the cost of
 6 living in the communities -- when you think
 7 about costs of living in the communities, you
 8 have to think about it as an overall picture,
 9 not just cost of going to the store and buying
 10 groceries or cost of paying your cable bill or
 11 your phone bill or your hydro bill.
 12 Everything comes into play, especially on the
 13 north coast of Labrador. The cost is so high.
 14 Just for example, your transportation
 15 costs. Unless you travel for work or if you
 16 travel for medical, which is again covered,
 17 you typically don't see many people travelling
 18 outside of Nunatsiavut or travelling community
 19 to community. Most people in the communities
 20 cannot afford to do that. It's just too high.
 21 So you do see a lot of people just staying
 22 within the communities, unless, like I say,
 23 they travel for work. It's just too high.
 24 There is a bit of a relief in the summertime
 25 when you have the ferry service, but again,

Page 9

1 that cost is not cheap and that service is
 2 only there for about five months at the most.
 3 It's actually ending right now. So
 4 transportation is very expensive. It's part
 5 of the costs.
 6 We also have the cost of hydro is very --
 7 in the summer months, it's not too bad. It's
 8 like anywhere, probably anywhere else in the
 9 province and it probably looks really
 10 reasonable, but as the months get colder and
 11 as the weather gets harsher, it rises really
 12 fast. And in the very cold months, when you
 13 get down to minus 40, minus 50, the cost of
 14 Hydro really escalates and it's either because
 15 of people are using more heat, electricity
 16 within the homes, or they are burning more
 17 oil. Again, everything -- the bill keeps
 18 going up.
 19 (9:15 a.m.)
 20 The cost of oil in the communities is not
 21 cheap. Actually, this year, we feel really
 22 fortunate because of the cost of oil. We're
 23 fortunate because the cost of oil is froze at
 24 \$1.34. Typically it's over \$1.50 within the
 25 communities and this year, even though that's

Page 10

1 a very high price, people are saying "Thank
 2 God" because it's something that we're not
 3 used to, even though it's still quite high.
 4 So, it's kind of a funny thing. But the cost
 5 of fuel or the cost of electricity within the
 6 communities is quite high.
 7 We also have the cost of food. Bringing
 8 food into the communities is quite costly, but
 9 what you're seeing is a lot of the businesses
 10 are switching to electric heat. As the
 11 electric bill gets higher, that's put onto the
 12 cost of food and that goes up as well.
 13 So when I say when you look at that
 14 income there for Nain or Hopedale or Makkovik,
 15 you have to realize that it's a very limited
 16 income that they have, families have to make a
 17 judgment call because you have to base that
 18 against all these other costs that you have
 19 within the communities, and if you have a rate
 20 hike for Newfoundland and Labrador Hydro, it
 21 adds an extra burden.
 22 Looking for most families within
 23 Nunatsiavut for looking at a Hydro bill, it's
 24 not simply looking at your monthly bills and
 25 saying, tick it off and I got to pay this.

Page 11

1 It's quite a big thing. The hydro bill on the
 2 coast is a big thing. It's considered part of
 3 a daily life that you have to make a judgment
 4 call on. If you go to pay your hydro bill,
 5 probably something else is going to sacrifice,
 6 whether it's your home oil, whether it's your
 7 food, whether it's other necessities of life,
 8 because people simply don't have the means to
 9 pay for these other things when you have to
 10 pay for hydro.
 11 And you will see some families without
 12 hydro just because it's -- they need the wood
 13 to burn, they need the food, to put the food
 14 on the table. In a lot of instances, you have
 15 families making a choice of not eating at a
 16 particular time. Parents might not eat, just
 17 so the children can eat. It's about choices
 18 and that's what I say, you have to look at the
 19 bigger overall cost when you're thinking about
 20 the cost of living in the communities,
 21 especially when you have very low income, like
 22 you're seeing in front of you.
 23 MS. DAWSON:
 24 Q. Now you did mention when you were just
 25 speaking about wood. Do you want to speak a

Page 12

1 little about the availability of wood in these
 2 communities as a fuel source?
 3 MR. SHIWAK:
 4 A. Typically what you see, just over half of the
 5 communities in Nunatsiavut, they burn wood as
 6 a heat source. If you look at the communities
 7 of Rigolet, Makkovik and Postville, getting
 8 wood is not such a big thing because you're in
 9 close proximity to the wood and it's an
 10 everyday thing, you go out and cut your wood
 11 and it's quite convenient. But if you go into
 12 Hopedale and Nain, the availability of wood
 13 becomes more scarce. You have to travel quite
 14 far on snowmobile to get to the wood and
 15 again, going back to the income, most of these
 16 families cannot afford to purchase
 17 snowmobiles. Most of these families don't
 18 have the ability to go out and get that wood.
 19 So what you're finding is a lot of families
 20 don't have wood in the communities. Some of
 21 the more well-off ones do, but most of them
 22 don't. They rely on either family members or
 23 other people to get them wood, and a lot of
 24 times, that's not there. So then if they're
 25 burning wood, they're relying on something

Page 13

1 else, either relying on electric heat or
 2 they're relying on oil, home heating. And
 3 again, a lot of them can't afford to buy that
 4 oil heat or if you were to bump up -- those
 5 relying on electricity, if you were to bump up
 6 or put a rate hike on that, they simply can't
 7 afford that either.

8 So you will find families going without
 9 heat. You will -- typically if you walk into
 10 a home of which I'm talking about, you
 11 probably would see the oven open, getting the
 12 heat from the oven. You would see -- I've
 13 heard and I've seen cases where people have
 14 broken down their steps for wood, the steps
 15 that you have on your house, yes, or the walls
 16 within the house to have heat for the family.
 17 These are because -- a lot of it is because of
 18 income and having choice of what to buy and
 19 what to do.

20 If you think about Muskrat Falls, for
 21 example, there is a lot of wood coming out of
 22 Muskrat Falls. I guess some of the crumbs
 23 that we do get from Muskrat Falls for the
 24 north coast is we have access to the wood. So
 25 we do get that wood up into the most northerly

Page 14

1 communities, Nain and Hopedale. It does not
 2 last very long. It's very expensive to get
 3 that wood up there and we are the ones paying
 4 to get that wood up to the north coast of
 5 Labrador.

6 So that helps a bit, but the home
 7 heating, the wood heating is a necessity, but
 8 it's a challenge for most people and if you're
 9 not burning wood, everything else is quite
 10 expensive.

11 MS. DAWSON:
 12 Q. Do you want to tell the Board a little bit
 13 about the power supply and any -- you know,
 14 it's dependability, whether it's -- you lose
 15 the power very often or how does that work in
 16 these communities?

17 MR. SHIWAK:
 18 A. In all the communities, it's diesel, diesel
 19 generators, diesel power plants. We're very
 20 thankful to have them, even though that we
 21 think that they could be better. It's typical
 22 for the communities in Nunatsiavut to
 23 experience power outages and people are --
 24 when the winter months come around, they kind
 25 of expect it, especially when you have storms

Page 15

1 and they expect when the power goes down,
 2 depending on what causes the power outage,
 3 that you could be looking at a power outage
 4 for maybe a day or two, just because you're
 5 isolated and the power crew has to come in
 6 from Goose Bay or wherever to fix that. Those
 7 things are expected.

8 But the problem with the diesel power
 9 plants is they're on a very limited capacity.
 10 We know that there have been investments made
 11 into Nain and Hopedale in the last number of
 12 years to upgrade or put extra power in those
 13 communities. We know that there's extra
 14 things put into the other communities, but
 15 right now, the amount of power that's going
 16 into the communities is only looking at what
 17 exists in the community today. They are not
 18 there to -- they are not put into the
 19 communities for future or for advancement in
 20 the communities. If you have anything big
 21 happening, say if something big happened in
 22 one of the communities, the power just isn't
 23 there.

24 I don't know if you know about Makkovik.
 25 Makkovik is where our major fish plant is,

Page 16

1 processes turbot and crab. In the summer
 2 months, when that plant is going, they can
 3 only use portions of the plant because the
 4 diesel generator cannot supply the community
 5 and supply that full plant at one time. The
 6 power going into those communities is there
 7 just to keep the community going for now and
 8 it's at a very huge investment, I understand,
 9 from Hydro. They probably should be looking
 10 at a way to supplement that power so that you
 11 do have extra power to the communities. There
 12 are probably ways of making it cheaper for the
 13 communities, I don't know, but it's just very
 14 difficult with a diesel generator to -- for
 15 the community to advance because there's no
 16 extra power to advance. So there's got to be
 17 -- from the community perspective, we need --
 18 you have to look at different ways of
 19 increasing that power, making it more
 20 reliable, making it more affordable and it's
 21 probably looking at alternate sources of
 22 power.

23 As I said in the beginning, we're very
 24 happy to have the power. Everybody is happy
 25 to have power in the community, but it's a

Page 17

1 diesel generating power plant and it's -- some
 2 of the communities, mine for example, Rigolet,
 3 the power plant sits right in the middle of
 4 the community, right next to a clinic. You do
 5 see the power plant and you do see the smoke
 6 stacks and you do see the black soot that
 7 comes out of the power plant and it does fall
 8 on the community, including the clinic, which
 9 sits around that power plant. They're not the
 10 cleanest forms of energy. They're probably,
 11 as I understand, needed in the communities.
 12 We probably cannot do without them. There's
 13 no plans to put a hydro line into any of the
 14 communities. So we do need the diesel
 15 generating power plants, but you have to
 16 understand that these plants need something to
 17 subsidize them because our communities are
 18 growing. Unlike what you might hear from the
 19 Provincial Government, the communities are
 20 going to grow and they are going to advance.
 21 But we need the power, we need the form of
 22 power to able to do that, especially for the
 23 people who can rarely afford it.
 24 MS. DAWSON:
 25 Q. Minister Shiwak, I want you to touch a little

Page 18

1 bit about the impact of the undertaking of
 2 Muskrat Falls on the communities.
 3 MR. SHIWAK:
 4 A. Well, if you're talking about the impact from
 5 a power point of view?
 6 MS. DAWSON:
 7 Q. Yes.
 8 MR. SHIWAK:
 9 A. There's no impact because we are not getting
 10 any power from Muskrat Falls. There is an
 11 impact from a perspective, a community
 12 perspective that you do -- you sit in
 13 Labrador, on the north coast, that in your
 14 communities, like I said, you have the diesel
 15 generating power plants, very costly, very
 16 costly to run them, very costly to maintain.
 17 You have a mega project that sits just outside
 18 of your claim area, pretty much in a community
 19 to the east. The only thing that's coming
 20 from that mega project are pollutants, number
 21 one being methylmercury. It's very
 22 frustrating to see.
 23 It's very frustrating to see that you do
 24 have all these issues with power. You do have
 25 a company like Newfoundland and Labrador Hydro

Page 19

1 going for a rate hike within the communities,
 2 but you also see that this company, Nalcor, is
 3 building a major mega project in Labrador next
 4 to you; the power is going elsewhere and we're
 5 having these issues with power and with other
 6 things and the only thing they're going to
 7 give you is pollutants into the water that we
 8 have to deal with for decades to come. I
 9 guess it's very frustrating. It's an argument
 10 that we are having -- we are bringing to the
 11 governments that they need to address.
 12 We know that it's probably not feasible
 13 to bring power lines in. We would love to
 14 have power lines coming from Churchill Falls
 15 into our communities, but we know that it's
 16 not feasible. It's not going to happen. But
 17 the consideration should be there that if
 18 you're -- if you can do a mega project for
 19 power for other parts of the province or for
 20 Nova Scotia, wherever that power is going to
 21 go, you must be able to look at different
 22 ways, alternate sources of power within the
 23 communities that helps with the diesel
 24 generating power plant to ensure that these
 25 communities have affordable energy, reliable

Page 20

1 energy and that allows for the communities to
 2 grow.
 3 The north coast of Labrador, we're
 4 isolated. We're -- in the wintertime, you fly
 5 in and you fly out. In the summertime, you
 6 get a ferry. You can get your truck on there
 7 sometimes. So, it's -- we're very proud of
 8 where we are and we're proud to be Inuit and
 9 be on the north coast of Labrador, but we're
 10 also proud to be part of this Province, and if
 11 you -- we expect to be treated like that. We
 12 expect to be treated like any other part of
 13 this province and yeah, it's -- the more
 14 thought and people need to sit down and talk
 15 about the power and what's realistic and what
 16 should happen within the north coast of
 17 Labrador.
 18 (9:30 a.m.)
 19 Rate hikes aren't the answer. You're
 20 just going to burden families more and you're
 21 going to put them more into poverty than
 22 anything else. More thought needs to go into
 23 how the power is supplied and Muskrat Falls,
 24 again is just a frustrating thing that you do
 25 -- it's very frustrating for people on the

Page 21	Page 23
<p>1 north coast when you see what's happening and 2 the cost of it, but you weigh that against the 3 cost of putting energy into the communities 4 and it's something that we just don't 5 understand.</p> <p>6 MS. DAWSON: 7 Q. I'd like for you to talk a little bit about 8 how any rate increase would affect any 9 commercial enterprises.</p> <p>10 MR. SHIWAK: 11 A. Typically, I guess it's like anywhere else, if 12 you have a rate increase on anything, 13 including your electricity bill or your hydro 14 bill, it has to come off somewhere and the 15 people who pay for that at the end of the day 16 is again those people in the communities 17 making those wages. For example, in Rigolet, 18 we have a Northern Store. They have just 19 switched from burning oil to burning 20 electricity. That electricity then has to 21 come off that diesel generating power plant, 22 which means that that power plant has to 23 generate more energy, which means that 24 Northern's price is going to go up because of 25 that energy. That is passed on to the</p>	<p>1 Again, I'm trying to make the picture of 2 you have to look at this as an overall 3 picture. It's not just about -- you just 4 can't simply say it's putting up the rate to 5 cover the cost of Newfoundland and Labrador 6 Hydro maintaining these power plants. It has 7 a significant effect on the day-to-day life of 8 most people in the communities.</p> <p>9 MS. DAWSON: 10 Q. That's all my questions. I don't know if -- 11 I'll leave it open to others now if they want 12 to take you through to anything.</p> <p>13 MS. GLYNN: 14 Q. Hydro would go first.</p> <p>15 CHAIRMAN: 16 Q. I guess I'll start with you, Mr. Young.</p> <p>17 MR. DARRYL SHIWAK, CROSS-EXAMINATION BY MR. GEOFFREY 18 YOUNG 19 MR. YOUNG: 20 Q. Yes, thank you, Mr. Chair. Good morning, 21 Minister Shiwak.</p> <p>22 MR. SHIWAK: 23 A. Good morning.</p> <p>24 MR. YOUNG: 25 Q. I just have a couple of questions actually.</p>
<p>Page 22</p> <p>1 consumer. Northern, they can do that. They 2 can switch to electricity and they can 3 probably pay that bill. But we are the ones 4 paying that bill in the end. If you have a 5 rate hike, that rate hike is going to come off 6 that again, again and we're going to be paying 7 for that again. It's typically most families 8 they cannot afford to do that.</p> <p>9 If you aren't already set up as a 10 business, it's very difficult for small 11 business to grow in Nunatsiavut just because 12 of the barriers and the cost of living on the 13 coast, north coast of Labrador. It's very 14 hard for small business start-ups. Small 15 business is, as you know, one of the best 16 community economic generators there is. It 17 sustains communities. It's very hard for 18 small business to start up on the north coast 19 because of the barriers. One of the big 20 barriers is the cost of electricity and the 21 cost of heat and the cost of everything else. 22 So again, if you have a rate hike, that puts 23 another barrier in front of small business 24 start-up and it puts a barrier to essential 25 services happening within the communities.</p>	<p>Page 24</p> <p>1 It arises on page 11 of your -- you don't 2 really need to turn to it. I think we can 3 have a conversation just generally about it.</p> <p>4 MR. SHIWAK: 5 A. Yes.</p> <p>6 MR. YOUNG: 7 Q. But it's the accessibility to the majority of 8 your residents with relation to energy 9 efficiency programs and you've made a comment 10 there and I just want to make sure I 11 understand it. "Many facets of the takeCHARGE 12 program are only available to private 13 homeowners." There are -- just to give you 14 some context. I understand major renovations, 15 windows and major insulation projects would 16 be, but are you aware that there's a number of 17 other projects and opportunities that are 18 available to tenants?</p> <p>19 MR. SHIWAK: 20 A. To our understanding, when you say tenants -</p> <p>21 MR. YOUNG: 22 Q. Yes.</p> <p>23 MR. SHIWAK: 24 A. - that most of the -- a lot of the homes in 25 Nunatsiavut are built through Newfoundland --</p>

Page 25

1 not Newfoundland -- Torngat Housing. A lot of
 2 the programs that -- and this is our
 3 understanding because we don't run Torngat
 4 Housing, even though that money flows through
 5 the Nunatsiavut Government to Torngat Housing.
 6 Torngat owners or the people who have Torngat
 7 Housing, these programs aren't available to
 8 them, just because of this program of Torngat
 9 Housing.
 10 Torngat Housing is, other than
 11 Newfoundland and Labrador Housing, is the
 12 affordable housing for people on the north
 13 coast. Even though we have to increase that,
 14 that's the majority of people, especially the
 15 low income people have Torngat Housing. We
 16 understand that a lot of these programs what
 17 you're referring to aren't available to those
 18 people.
 19 MR. YOUNG:
 20 Q. Yeah. My understanding is, and I can't give
 21 evidence here, I can only ask questions, but
 22 my understanding is that major changes, for
 23 example, thermostat or windows or insulation
 24 programs may not be, but other things would
 25 be, you know, pipe wrapping and insulation

Page 26

1 around hot water systems, that sort of thing.
 2 I think a lot of people in your communities
 3 would have taken advantage of those services.
 4 That's the testimony that's occurred here.
 5 Are you aware of that?
 6 MR. SHIWAK:
 7 A. I agree. I think when it comes to saving
 8 costs with regard to energy, you have to be
 9 able to maintain your home. You have to be
 10 able to have all those things that's available
 11 to you. But from our understanding, a lot of
 12 the communities, a lot of people in the
 13 communities don't really know that those
 14 programs exist or the ones that do, there are
 15 barriers. I understand that when they go to
 16 apply for these programs that they come up
 17 against barriers that they simply are too big.
 18 I could be wrong, but I think that it's too
 19 big for them to overcome. More work -- it's a
 20 good initiative. It needs to happen. But
 21 more needs to happen to get those people who
 22 we are referring to in the communities who
 23 simply can't afford to pay for all these
 24 costs. You need to do more to get into the
 25 community.

Page 27

1 Like I say, it's a good program, but more
 2 needs to be done to get into the communities.
 3 Fixing up your home and fixing up all these
 4 things are one issue.
 5 In some of the communities, especially
 6 like Nain, a lot of the homes are not your
 7 typical home. A lot of the homes are --
 8 there's real issues with them. A lot of it is
 9 due to the environment, the land that they're
 10 built on. There's real issues with mould.
 11 There's real issues with everything in those
 12 homes. We are addressing it with the
 13 Provincial Government through our retrofit
 14 program by putting more insulation in the
 15 home, clearing out a lot of the mould. We're
 16 cost sharing that program.
 17 But to the typical person, to the low
 18 income person, a lot of the programs, what
 19 you're referring to, they either don't know
 20 about or they don't have access to, even
 21 though it may be offered, but more work needs
 22 to be done to get -- at the end of the day,
 23 we're all trying to do the same thing, but we
 24 need to do more work to get to those people
 25 because we're trying to save them money.

Page 28

1 We're trying to give them the money to use,
 2 what they have left, for everyday living.
 3 MR. YOUNG:
 4 Q. Okay. That's all my questions. Thank you,
 5 Minister Shiwak.
 6 CHAIRMAN:
 7 Q. Mr. O'Brien?
 8 MR. O'BRIEN:
 9 Q. No questions.
 10 CHAIRMAN:
 11 Q. Mr. Johnson?
 12 JOHNSON, Q.C.:
 13 Q. No questions for this gentleman, thank you.
 14 GREENE, Q.C.:
 15 Q. And I have no questions, Mr. Chair.
 16 CHAIRMAN:
 17 Q. Do you have any?
 18 VICE-CHAIR WHALEN:
 19 Q. No. No questions, thank you.
 20 COMMISSIONER NEWMAN:
 21 Q. No questions.
 22 COMMISSIONER OXFORD:
 23 Q. No.
 24 CHAIRMAN:
 25 Q. Well, I guess -- do you have anything further?

Page 29	Page 31
<p>1 MS. DAWSON: 2 Q. No, no. 3 CHAIRMAN: 4 Q. I guess then we are adjourned. 5 MS. DAWSON: 6 Q. Well, no, wait, we've got another witness. 7 CHAIRMAN: 8 Q. Oh, I'm sorry. I thought you were going to -- 9 oh, I beg your pardon. 10 MS. DAWSON: 11 Q. No, we have a -- if we could have a small 12 adjournment so we can switch over the podium. 13 MS. GLYNN: 14 Q. Absolutely, yes. 15 MS. DAWSON: 16 Q. But - 17 CHAIRMAN: 18 Q. Oh, I thought you were - 19 MS. DAWSON: 20 Q. Oh yeah, no, I have another witness. 21 CHAIRMAN: 22 Q. Okay. That's Mr. Henderson? 23 MS. DAWSON: 24 Q. That's correct. 25 CHAIRMAN:</p>	<p>1 Q. Okay. Mr. Henderson, I just want to take you 2 first to page ten of your report, which is -- 3 and we'll start with line 241 and it's page 4 ten of your report that just talks a little 5 bit about who you are. So we'll start there. 6 Do you want to explain to the Board what you - 7 - your background first, and then we'll tell 8 them about what you're doing here, but your 9 background in general, please? 10 MR. CHRIS HENDERSON: 11 A. Be pleased to. For the last 25 years, ladies 12 and gentlemen, I've worked in the spheres of 13 environment and energy across Canada. For the 14 last 20 years in particular, I've worked very 15 closely with indigenous communities across 16 Canada in virtually every province and 17 territory, acting often as clean energy 18 advisor to indigenous communities, First 19 Nations, Metis and Inuit communities. 20 In that time, I've been involved with 21 converting diesel systems to renewable energy 22 systems, from diesel to diesel wind hybrids, 23 to hydro power systems and also to solar 24 power. In the course of doing that work, I 25 come at it from an economic and an energy</p>
<p>Page 30</p> <p>1 Q. I'm sorry, yes. Okay. 2 MS. GLYNN: 3 Q. So we'll take a couple of minutes to change. 4 CHAIRMAN: 5 Q. Yes. 6 (BREAK - 9:38 a.m.) 7 (RESUME - 9:46 a.m.) 8 CHAIRMAN: 9 Q. Okay, I guess we're back to you, Madam Dawson. 10 MS. DAWSON: 11 Q. Mr. Chair, our next witness is Mr. Chris 12 Henderson and Mr. Henderson should be sworn, I 13 guess, or affirmed. 14 MR. CHRISTOPHER HENDERSON, SWORN, EXAMINATION-IN-CHIEF BY 15 MS. GENEVIEVE DAWSON 16 MS. GLYNN: 17 Q. Ms. Dawson, I'm going to jump in again too, as 18 there is additional information that has been 19 filed by Mr. Henderson and we're going to 20 enter that as Exhibit No. 5. 21 MS. DAWSON: 22 Q. Okay. 23 MS. GLYNN: 24 Q. We'll have that done at the outset. 25 MS. DAWSON:</p>	<p>Page 32</p> <p>1 perspective and a community perspective, so a 2 sustainable development approach. I try to 3 make sure that the innovations one introduces 4 are workable, in terms of the economics that 5 are at play; that power reliability and 6 certainty exist, but also looking to introduce 7 more robust energy systems that reduce costs 8 and have lower environmental impacts over time 9 and have the involvement of the community. 10 So my work is as a clean energy advisor 11 across Canada and remote, isolated communities 12 have been a major focus of my work over that 13 last 20-25 year period. 14 MS. DAWSON: 15 Q. How long have you been doing some work for the 16 Nunatsiavut Government? 17 MR. CHRIS HENDERSON: 18 A. Approximately two years. 19 MS. DAWSON: 20 Q. Okay. And what about other northern 21 communities? Do you want to tell the Board 22 about your experience with other northern 23 communities? 24 MR. CHRIS HENDERSON: 25 A. Sure. In the northern Quebec region of</p>

<p style="text-align: right;">Page 33</p> <p>1 Nunavut, I currently advise both the Makivik 2 Corporation and the KRG Government in Nunavut, 3 as well as we're doing a hydro for diesel 4 replacement in the community of Inukshuak, 5 which is a seven and a half megawatt project 6 replacing 100 percent of diesel heat power in 7 that community. The feasibility is complete 8 and we're in final negotiations with Hydro 9 Quebec and the Quebec Government.</p> <p>10 In northern Ontario, I am the federal 11 advisor to the Government to involve a 12 conversion of 20 out of 23 remote communities 13 off diesel to transmission. I've been 14 involved with northern Manitoba in the 15 community of Lac Brochet and Barron Lake, 16 which is looking at a hydro project for 17 diesel, and a number of coastal communities in 18 BC as well that are remote, looking at 19 different innovations of the power system, 20 including more efficient diesel systems. And 21 finally, I've advised Yukon Energy and the 22 territory there in terms of their innovations 23 for remote communities, of which there are not 24 too many left in Yukon, but there are some.</p> <p>25 MS. DAWSON:</p>	<p style="text-align: right;">Page 35</p> <p>1 MR. CHRIS HENDERSON: 2 A. I do.</p> <p>3 MS. DAWSON: 4 Q. And then there's some additional information 5 that you filed just lately, which we've just 6 named Information number -</p> <p>7 MS. GLYNN: 8 Q. Exhibit No. 5.</p> <p>9 MS. DAWSON: 10 Q. Sorry, Exhibit No?</p> <p>11 MS. GLYNN: 12 Q. 5.</p> <p>13 MS. DAWSON: 14 Q. 5. That's what I thought. So, that -- so do 15 you adopt that evidence as well?</p> <p>16 MR. CHRIS HENDERSON: 17 A. I do.</p> <p>18 MS. DAWSON: 19 Q. Okay. So I'd like to now take you to the main 20 part of your report and I want you to go 21 through your report for the Board and just 22 explain what -- the contents of it and what 23 you'd like to leave with this Board.</p> <p>24 MR. CHRIS HENDERSON: 25 A. Thank you. In this role, I act as clean</p>
<p style="text-align: right;">Page 34</p> <p>1 Q. The Nunatsiavut Government is offering Mr. 2 Henderson as an expert in the area of 3 sustainable development and northern -- energy 4 as it relates to northern climates. So that's 5 sort of the purpose why he's here and I want 6 to make sure that that's -- we didn't get 7 involved in cost of service expertise, but Mr. 8 Henderson's expertise is of a different nature 9 than cost of service, but still an expert in 10 this area, which is sort of, I would call it, 11 sustainable energy, which is what he's mostly 12 going to get into with respect to northern 13 climates. So I wanted to make sure that the 14 Board understood where we were with that. 15 He's not going to be offering any kind of 16 testimony -- and that's why we didn't put him 17 in the cost of service experts because that's 18 not what we were focused on. So, I want to 19 make sure you understand that.</p> <p>20 Mr. Henderson, you filed two different -- 21 now, two -- one report and some additional 22 information. The report that you filed with 23 the Board was filed some time ago. It was in 24 June of 2015 and do you adopt the contents of 25 that report, that expert report?</p>	<p style="text-align: right;">Page 36</p> <p>1 energy advisor to the Nunatsiavut Government. 2 The Nunatsiavut Government asked me to on a 3 proactive basis two years ago to look at 4 energy, the needs in the community, the costs 5 of energy, and that's both electricity and 6 heat, though as the Minister noted there's a 7 linkage between the two, and identify their 8 opportunities to both reduce consumptions 9 through efficiency and conservation that were 10 not being fully taken advantage of, and 11 opportunities to reduce costs over the long 12 term through renewable energy.</p> <p>13 So that expert report first goes into a 14 description of the energy realities in the 15 region, which I won't dwell into because I 16 think the Minister covered those off in fair 17 measure. In the role that we've done, we have 18 completed the Nunatsiavut energy security 19 plan. It has been reviewed by Executive 20 Council by the Nunatsiavut Government about 21 two months ago. We're waiting for final 22 revisions from the Government and that report 23 will be available to the Public Utilities 24 Board and the various stakeholder interests 25 here very shortly. It is grounded in what is</p>

Page 37

1 workable based on what's happening elsewhere
 2 in Canada, what potentially exists on the
 3 ground today. In the course of doing this
 4 work, which is reflected in the expert report,
 5 we consulted with Newfoundland and Labrador
 6 Hydro and the Public Utilities Board. I would
 7 note, and I would express appreciation that we
 8 found individuals from both those
 9 organizations forthcoming, they were helpful.
 10 There was a genuine desire to see what could
 11 be improved, understanding that things change
 12 over time and that we need to move forward.
 13 It's not a static point in time.

14 In the course of doing this work, I
 15 really would stress that, as the Minister did,
 16 this linkage between electricity and the rates
 17 related to it, which you are accountable for,
 18 and heat, in some cases homes in the region
 19 use electric heat and that is becoming more
 20 and more prevalent especially for public
 21 buildings as they are expanded and built, but
 22 the energy budget of residents is an energy
 23 budget for both space and heat. If one rises,
 24 there are impacts on the other side, and that
 25 reality in Nunatsiavut has to be appreciated.

Page 38

1 I mean, the average cost in winter months for
 2 heating a home in Nunatsiavut the residents
 3 bear is a little over \$600.00 per home per
 4 month. It's not a small amount of money.
 5 When you add to that electricity cost, you
 6 kind of see what the energy budget looks like
 7 in a region where income rates are much lower
 8 than elsewhere in the province. So those
 9 factors have been pointed out too by the
 10 Minister, and I'll leave it at that point. I
 11 think what I would stress to the Board is that
 12 the work that Newfoundland and Labrador Hydro
 13 has done in the region is very genuine and
 14 very competent in many respects. There is a
 15 mandate under the legislation and policy of
 16 the province to provide power. There are
 17 consequences there sometimes with outages that
 18 occur, which is a challenge of diesel systems.
 19 In some places outages can last quite a bit of
 20 time, but there is where, I think, there is
 21 opportunity that would have an impact on the
 22 cost of the system for the system overall for
 23 the residents and even, therefore, to all
 24 residents of Newfoundland, given the rural
 25 subsidy, is related to how you over time

Page 39

1 reduce energy demand through conservation and
 2 efficiency and renewable energy.

3 The Take Charge Program is a good
 4 program. It's been well intentioned and it
 5 has a number of positive parts. However, it
 6 also is not a holistic community energy
 7 planning or holistic individual residence or
 8 facility energy efficient and conservation
 9 program. I'll give you a comparison. If you
 10 go to Manitoba, Manitoba has a system called
 11 PAYS, Pay As You Save. In Manitoba virtually
 12 any business, institution, or community home
 13 owner can go to the provincial utility of
 14 Manitoba Hydro and say, look, I'd like to
 15 renovate all these aspects of my home,
 16 windows, and major appliances, building
 17 systems, building envelope, and I will access
 18 a fund from the utility to do that, and as I
 19 save, and that has to be part of a plan with
 20 the utility, then that money that was used for
 21 those initiatives is paid back, and once it's
 22 paid back, then I'm free and clear. What
 23 programs like Manitoba have done is take a
 24 holistic approach to a home, but more
 25 importantly for communities like isolated

Page 40

1 communities on the North Coast, you want a
 2 comprehensive community energy planning
 3 approach and that's what I think you will see
 4 when you see the Nunatsiavut energy security
 5 plan tabled. It's trying to say, look, can
 6 you look at the community of Nain, Hopedale,
 7 or Rigolet, or Makkovik, and see how those
 8 communities are using energy and reduce energy
 9 together with them. So what I would point to
 10 in the testimony, and also in the additional
 11 material, is things have changed. There is a
 12 report that we were privy to that was
 13 commissioned by Newfoundland and Labrador
 14 Hydro in 2009, looking at various forms of
 15 renewal energy in the region, and concluded at
 16 that time that while there was some more wind
 17 energy monitoring being done, there wasn't
 18 much potential in solar, there wasn't much
 19 potential in geothermal bio-mass, and some of
 20 that is definitely factually correct, there's
 21 not much potential in geothermal, for example.
 22 However, 2009 is six years ago and things have
 23 changed. I mean, in that 2009 report, it was
 24 said that if solar power costs come down, they
 25 should be considered. Well, in the last six

Page 41

1 years they have come down now almost 65
 2 percent for solar panels, control systems, and
 3 converters/inverters, and as a result,
 4 elsewhere in Canada in Northwest Territories,
 5 in Northern Ontario, in BC, you see large
 6 scale conversions of systems that are remote
 7 into solar power with solar storage. Solar
 8 panels will come down a further 20/25 percent
 9 in the next two/three years, and so storage
 10 costs are going down which allows both backup
 11 capacity for solar power. That's an example
 12 of how renewable energy should be looked at
 13 more assertively.

14 There was a report commissioned by the
 15 Newfoundland Government in 2014 to look at
 16 these issues again. We do not have the final
 17 report yet, it's not available, we look
 18 forward to it. So the simple point that we
 19 would make here is that part from the reality
 20 of energy in the North Coast communities which
 21 is challenging, given the economic situation
 22 and the link between heating and power, is
 23 that we believe that there is greater
 24 potential for a more holistic community energy
 25 planning approach and a more holistic home

Page 42

1 energy efficiency and conservation approach,
 2 which does require new tools. It may require,
 3 for example, an investment fund that has a pay
 4 back mode that could be commissioned on the
 5 part of the utility potentially with the
 6 Provincial Government as it is, for example,
 7 in Manitoba. We do believe that certain forms
 8 of renewable energy have changed in both the
 9 reliability, the performance, and the
 10 economics in the last six years that has led
 11 other jurisdictions with remote communities in
 12 Canada and elsewhere in the world to start
 13 installing them because they're working
 14 better.

15 If you go to Colville Lake in Northwest
 16 Territories, you'll see a large solar ray that
 17 covers a property about twice the size of this
 18 building footprint that is now generating over
 19 60 percent of the power requirements in
 20 Colville Lake. Northwest Territories didn't
 21 do this happenstance. They did it because it
 22 made sense. If you go to Northwest
 23 Territories and you look at the EKATI Mine,
 24 three years ago they installed three wind
 25 turbines at that mine. This is a perfectly

Page 43

1 private operation, they look at full cost
 2 accounting. They worked so well, they
 3 installed three more this summer. In
 4 addition, there's opportunities to be
 5 innovative here in the context of newer
 6 technologies. People are well aware of the
 7 wind hydrogen system in Ramea Island, but if
 8 you look in a northern community like Salluit,
 9 the Xstrata Mine in Nunavik in Northern
 10 Quebec, there you had a wind deal system
 11 installed a year and a half ago which involved
 12 a major contribution on the part of the
 13 Federal Government, in fact, covering almost
 14 60 percent of the cost to recognize it was a
 15 cost factor that should not be borne by rate
 16 payers in the province, but because there was
 17 innovation potential there, you could see how
 18 wind diesel systems could work that's not up
 19 and operating.

20 So there's opportunity both for
 21 conservation with holistic approach community-
 22 wise and building-wise, building on Take
 23 Charge as a start and go further. Two, it's
 24 an opportunity to look at renewable energy
 25 because renewable energy technologies are

Page 44

1 becoming more effective and more cost
 2 effective. Thirdly, it's an opportunity to
 3 look at innovation in systems because there
 4 are supports, including a partnership with the
 5 Federal Government. Those are opportunities
 6 we believe should be part of the system for
 7 Nunatsiavut that do have an impact on rate
 8 payers over the medium to long term and also
 9 home owners in the region and businesses.

10 (10:00 a.m.)

11 Finally, even with diesel systems there's
 12 opportunity through innovation. If you look
 13 at Innovus Power in California, diesel systems
 14 operate, for technical terms, at a certain
 15 speed pretty regularly that consumes a certain
 16 amount of fuel, diesel fuel, and the amount of
 17 consumption is not as responsive. So you're
 18 using this much power, let's say the number is
 19 100, and the next five minutes it drops to 50,
 20 the diesel system can adjust, so you're using
 21 fuel that is not needed and costs money.
 22 Variable speed motors that are much more akin
 23 to a control system that operates, like, on
 24 the grid, is much responsive minute to minute
 25 to changes in demand can reduce diesel fuel

<p style="text-align: right;">Page 45</p> <p>1 consumption by 30/35 percent. Innovus is now 2 being installed by BC Hydro in a remote 3 community on their coast. So that's a final 4 point I would point to in opportunity. So the 5 Nunatsiavut Government has taken a proactive 6 approach with this and said let's look at how, 7 in collaboration with Newfoundland and 8 Labrador Hydro and the province, and 9 potentially also the Federal Government, 10 there's opportunities to be more creative that 11 fundamentally is still rooted economically. 12 One has to make sure that; one, the systems 13 work, they're reliable, and two, they're done 14 with a real sense of how it impacts the 15 economics particularly on the rate base. So 16 that fundamentally is a summary in terms of 17 what expert testimony we offer, but it's 18 rooted in a year and a half, two year's work 19 of work in the region in consultation with the 20 province and Newfoundland and Labrador Hydro 21 and the Public Utilities Board. We believe 22 that would have a positive effect on both the 23 region and its residents and businesses, but 24 also on the whole management of utility 25 systems and rates for the province.</p>	<p style="text-align: right;">Page 47</p> <p>1 where the state of the art may have been three 2 to five years ago. I think the opportunity 3 for water jackets, the opportunity - that take 4 the heat from the diesel plants to use it to 5 heat other buildings, the opportunity to blend 6 in renewables into those facilities, even 7 small scale renewables, and the opportunity 8 for more advanced diesel systems have not so 9 far been part of the capital program for the 10 utility. I believe that it would make sense 11 for the province and for the region to look at 12 that into the future.</p> <p>13 MS. DAWSON: 14 Q. And would all of this, both the renewable 15 energy and the conservation that you're 16 talking about, would that lower sort of the 17 rural deficit as you know it?</p> <p>18 MR. CHRIS HENDERSON: 19 A. I would say the most important thing to have 20 an impact on the rural deficit for the North 21 Coast communities is energy conservation and 22 efficiency before renewables. Two years ago, 23 you can Google it, I wrote a book called 24 "Aboriginal Power", which looked at renewable 25 energy in the indigenous communities across</p>
<p style="text-align: right;">Page 46</p> <p>1 MS. DAWSON: 2 Q. Mr. Henderson, have you yourself visited these 3 communities, have you gone up there and seen 4 what Newfoundland Hydro has in these 5 communities in the way of both - in 6 particular, the diesel plants? Have you 7 visited those?</p> <p>8 MR. CHRIS HENDERSON: 9 A. Yes, I have. I visited three of the five 10 communities, and particularly focusing on 11 Hopedale and Nain which have gone through 12 diesel upgrades recently in response to 13 demand. I met both with Newfoundland and 14 Labrador managers in Goose Bay who manage the 15 North Coast communities, and I met with the 16 operators in the communities in the ones that 17 I mentioned, and the individuals who actually 18 manage the upgrade process.</p> <p>19 MS. DAWSON: 20 Q. And are the diesel generating plants sort of 21 state of the art or are they behind or where 22 are they in relation to what you would like to 23 see there?</p> <p>24 MR. CHRIS HENDERSON: 25 A. I think the diesel plants are okay relative to</p>	<p style="text-align: right;">Page 48</p> <p>1 Canada, and it has a very extensive chapter on 2 remote northern communities. In that chapter, 3 there's an energy ladder you should follow in 4 remote communities. The seventh step of the 5 ladder is renewable energy. You don't step on 6 a ladder on the seventh step, you got to climb 7 the first six. Energy conservation demand 8 peak load shaving, energy efficiency, combined 9 heat power, are some of the earlier steps on 10 those ladders. Effectively, what we've seen 11 so far for the Take Charge Program is there's 12 been half of the first step on energy 13 efficiency introduced. There could be more 14 work done on peak load shaving. If you can 15 get that peak down so that you don't have to 16 put in another diesel motor on a string of 17 three or four you might have, that can have a 18 big impact on efficiency and cost. That 19 requires a community energy plan and a closer 20 management between demand and supply. That 21 has potential. That's the first step. You 22 just simply don't turn the motor on, the third 23 motor on, or the second motor on. The second 24 step is conservation by behaviour practices. 25 I believe more can be done there by working in</p>

Page 49

1 partnership with the Nunatsiavut Government.
 2 That's a behavioural social process, not a
 3 technical process of simply replacing an
 4 incandescent bulb with a LED. It requires use
 5 change, which requires more education.
 6 Thirdly, you can have efficiency. I believe
 7 some of that program is in place, but more
 8 could be done with a comprehensive approach.
 9 Those are the ones that would have the biggest
 10 impact on cost and communities. That takes a
 11 bit of time and investment as they're doing in
 12 other parts of Canada, but it's not crazy
 13 money or complicated. It requires planning,
 14 and what people will find with the Nunatsiavut
 15 energy security plan, we're proposing how that
 16 be done in collaboration between the
 17 Nunatsiavut Government, local communities, and
 18 the utility and the province in doing so.
 19 Renewable energy - so work on energy
 20 conservation efficiency test to have a shorter
 21 pay back period anywhere from a year or two,
 22 to four or five years. That's the kind of
 23 time line, I think, all rate payers of the
 24 province would appreciate. Renewable energy,
 25 I'll be honest, takes longer. I mean, if one

Page 50

1 were to introduce a solar storage system now,
 2 you may be looking at a pay back rate that may
 3 take six to nine years to do, but as the costs
 4 come down, the pay back rate gets faster. So
 5 we believe that should be part of the ongoing
 6 monitoring of energy innovation for the
 7 region. So short strokes are go first to
 8 energy conservation, don't even use that, and
 9 energy efficiency which requires more
 10 substantive programming, and then to renewable
 11 energy, but be very judicious about which
 12 renewable energy projects to do first, and I
 13 think I can firmly say from what I've seen of
 14 the Nunatsiavut Government they are very open
 15 to working with partners on that.
 16 MS. DAWSON:
 17 Q. Do you have any idea what would work better in
 18 these different five communities with respect
 19 to, let's say, renewable energy?
 20 MR. CHRIS HENDERSON:
 21 A. Well, if you look at the community of Nain,
 22 which is the largest community, I believe
 23 there is potential both with solar and
 24 potentially some with wind, and the same in
 25 Hopedale. In Makkovik, there's a potential

Page 51

1 small hydro facility which would be very
 2 helpful because, as the Minister noted, the
 3 fish plants need that supply to operate full
 4 tilt. In Nain, for example, I can share today
 5 which is a gift to my--marks as testimony
 6 (phonetic), I've secured an arrangement with
 7 the Solar Energy Society of Canada to have
 8 solar energy systems donated to the Illuak
 9 Cultural Centre, which is being built in Nain
 10 right now, free of charge as part of a
 11 demonstration to bring renewable solar power
 12 into that community. The Nunatsiavut
 13 Government also secured federal funding to
 14 provide solar hot water system, again with
 15 federal support to buy the equipment and
 16 install it for the Illuak Cultural Centre.
 17 So what I would say is that I believe solar
 18 energy with storage has the greatest potential
 19 for renewable energy in the region, but
 20 potentially some wind integration in a couple
 21 of communities and maybe hydro in one other
 22 community. We did conduct, as part of our
 23 energy security plan, a look at biomass power.
 24 While the Minister noted biomass is a
 25 challenge because of the distance people have

Page 52

1 to go to get wood biomass, the community of
 2 Postville is an exception because its had a
 3 lumber mill and it's in the lower part of the
 4 North Coast which has more biomass reserve.
 5 We have done some work for the Nunatsiavut
 6 Government with Natural Resources Canada, have
 7 identified some biomass potential for biomass
 8 generation and heat in Postville, which we
 9 believe has potential. So solar in all
 10 communities, wind potentially in Hopedale and
 11 Nain, potentially some small hydro in
 12 Makkovik, and potentially some biomass in
 13 Postville.
 14 MS. DAWSON:
 15 Q. Now the additional information you filed with
 16 the Board, is there anything you want to add
 17 to the additional information that we
 18 provided?
 19 MR. CHRIS HENDERSON:
 20 A. Thank you for that question. What I tried to
 21 do, and I apologize that you recently received
 22 this, because I want to give something to the
 23 minute, what I'm pointing out there is how
 24 other jurisdictions are moving very quickly
 25 across Canada because things are changing

Page 53

1 quickly in terms of technology and cost, even
 2 when diesel fuel rates have gone down in the
 3 past couple of years which is very appreciated
 4 by the region. What I would note is that the
 5 Government of Newfoundland and Labrador, along
 6 with most other Canadian governments,
 7 including Ontario, Nunavut, Manitoba,
 8 Saskatchewan, Alberta, BC, Yukon, and NWT, I
 9 think Quebec was the only one who didn't sign
 10 up, but will eventually, they signed off at
 11 the premiers level a natural energy strategy.
 12 A specific provision in the natural energy
 13 strategy was to look at sharing and
 14 collaboration on off grid innovations for
 15 energy other than on the matter I've been
 16 speaking to, and given that other communities
 17 are engaged with this like the Northwest
 18 Territories, as I mentioned, and Northern
 19 Quebec, I would note that should part of the
 20 direction here be to look at renewable energy
 21 and energy efficiency, there are potential
 22 collaborations across Canada, and in addition
 23 the Government of Newfoundland and Labrador
 24 signed on to that. I would also note that the
 25 Government of Newfoundland and Labrador had

Page 54

1 also made a commitment to a net metering
 2 policy, so to my example in Nain with the new
 3 cultural centre being built, which we secured
 4 support to put in solar panels free of charge
 5 to the residents and to the rate payers, if
 6 they generate electricity that is not needed,
 7 that actually would be able to be sold back
 8 into the Nain local power grid and that's a
 9 policy that we're waiting for details on. So
 10 what I'd start to do with this additional
 11 information is to point out that there's
 12 innovations going on with off grid energy
 13 across Canada, and collaboration has
 14 potential.
 15 MS. DAWSON:
 16 Q. You used the word "net metering policy". Could
 17 you just elaborate a little bit about that?
 18 MR. CHRIS HENDERSON:
 19 A. Yes, thank you. The Minister of Natural
 20 Resources of Newfoundland announced a net
 21 metering policy earlier this year, and what
 22 that says essentially is that home owner or a
 23 small business, or government in this case,
 24 the local government, could generate renewable
 25 energy for their own use as long as the

Page 55

1 building systems allow that, and if they don't
 2 need that power at the time, they could sell
 3 that back to the provincial grid, or in this
 4 case the local grid in this case specifically
 5 in Nain. There's a framework that has to be
 6 developed along with the provincial utility
 7 and the PUB. So when that policy is
 8 established, in circumstances where a business
 9 or in this case the Government of Nunatsiavut
 10 puts up the solar power system, by way of
 11 example, there's another local source of power
 12 that can help reduce the diesel demands and
 13 the risk is taken, though, by the people who
 14 put that power - those new energy systems in
 15 place. We're looking forward to that policy
 16 being developed, the net metering policy. We
 17 don't know the details yet.
 18 MS. DAWSON:
 19 Q. And could you elaborate a little more about
 20 what was referred to as the off grid policy or
 21 the new initiative announced by the Government
 22 of Newfoundland?
 23 MR. CHRIS HENDERSON:
 24 A. It wasn't so much a new initiative, but an
 25 initiative on the part of all premiers as part

Page 56

1 of the national energy strategy to improve
 2 collaboration on energy innovation for remote
 3 off grid communities, and the examples I gave
 4 in the additional information are among some
 5 of the innovations and there's others. So the
 6 governments agreed that they would collaborate
 7 together in this process. We believe that, to
 8 be frank, more collaboration from Newfoundland
 9 and Labrador would be beneficial for
 10 Newfoundland and Labrador. I noted in the
 11 brief, there's been two major events in the
 12 last four or five months in Yellowknife,
 13 Northwest Territories, and in Fairbanks,
 14 Alaska, where there were representatives from
 15 most Canadian provinces and territories with
 16 remote operations again sharing what works
 17 better. There is the opportunity to learn
 18 from others, and so if one finds what Manitoba
 19 Hydro eventually does with their four remote
 20 communities, one doesn't have to start at
 21 ground zero, one can use technology
 22 assessment, economic modelling, and
 23 installation experiences from elsewhere to
 24 inform how it might work in Nunatsiavut; how,
 25 for example, could the experience in Fort

Page 57	Page 59
<p>1 Simpson or in Liard or in Colville Lake in 2 Northwest Territories work for Nunatsiavut 3 should they look at solar power. 4 MS. DAWSON: 5 Q. I think that's all my direction for you. I 6 don't know if anybody has any questions. 7 (10:30 a.m.) 8 CHAIRMAN: 9 Q. Mr. Young. 10 MR. YOUNG: 11 Q. Yes, I do. Thank you, Mr. Chairman. 12 MR. CHRIS HENDERSON - CROSS-EXAMINATION BY MR. YOUNG: 13 MR. YOUNG: 14 Q. Good morning, Mr. Henderson. Geoff Young, 15 Newfoundland and Labrador Hydro. Just a 16 couple of areas. It was a very interesting 17 presentation this morning. I'm just wondering 18 because of the discussion you mentioned a 19 couple of times in your presentation that you 20 were aware of a fair bit of consultations 21 going on with government, Hydro, and the 22 Board, are you aware of the wind testing and 23 meteorological testing in Nain? 24 MR. CHRIS HENDERSON: 25 A. In Nain and in Hopedale.</p>	<p>1 variable speed wind, so it's not a consistent 2 wind that could help the system. We might 3 find that with some energy innovations and 4 wind energy that wind has potential there, but 5 as I mentioned in my remarks, wind wouldn't be 6 where I'd go first. 7 MR. YOUNG: 8 Q. It occurs to me when I think of Nain, it's a 9 larger community, so it might be sort of an 10 obvious target, so storage, I suppose, might 11 be the opportunity there if wind is not - you 12 have capacity factors. 13 MR. CHRIS HENDERSON: 14 A. Right. Yes, sir, storage of wind or solar, I 15 mean, if you look at a company like Enerstore 16 in Canada, which is one of the leading storage 17 companies in the world, their battery costs 18 are expected to reduce by 40 percent in the 19 next two years. They're a partner with Tesla. 20 When they announced the partnership with Tesla 21 to do a home storage system for the home, they 22 received an order within 90 seconds across 23 Canada for that, by way of example. So the 24 storage example is key. So you've got these 25 two vectors that have changed since you last</p>
<p>Page 58</p> <p>1 MR. YOUNG: 2 Q. So you're aware that has been going on? 3 MR. CHRIS HENDERSON: 4 A. Yeah, but let me give you a specific because 5 when I was both in Hopedale and Nain, I went 6 to the anemometers. 7 MR. YOUNG: 8 Q. Right. 9 MR. CHRIS HENDERSON: 10 A. One wasn't working. 11 MR. YOUNG: 12 Q. Okay. 13 MR. CHRIS HENDERSON: 14 A. The Nain system, there were two sites in Nain, 15 one on the bluff, one near the station. I 16 went to the monitoring computer and asked the 17 operators do you know what that is, and they 18 said, no. So what I have not seen, the wind 19 energy data, so I was concerned the systems 20 were installed that weren't seem to be 21 monitored. One system has been taken down 22 since, as I understand. I'll say, though, 23 knowing wind energy in remote communities 24 pretty well, I don't expect the wind is going 25 to be fantastic, to be honest with you. It's</p>	<p>Page 60</p> <p>1 looked at this in detail in 2009 in the solar. 2 One is that solar rays, the converters, 3 inverters, and the panels and the racks have 4 come down in cost by over 60 percent. Solar 5 storage technology proved to be robust and now 6 is driving cost down. That's why I would 7 probably put solar at the top of the list as 8 the potential to look at that can drive down 9 diesel. If we can shut off one of those 10 engines to cut off the peak load, that has 11 definite impact on the cost structure of 12 diesel. 13 MR. YOUNG: 14 Q. And you mentioned also the opportunity get 15 some federal funding, and, of course, Ramea is 16 an R & D project. 17 MR. CHRIS HENDERSON: 18 A. Exactly. 19 MR. YOUNG: 20 Q. You sound like you're familiar with that? 21 MR. CHRIS HENDERSON: 22 A. I am. I think it's an intriguing system. It 23 certainly is very innovative, given it's both 24 wind and hydrogen in the system. 25 MR. YOUNG:</p>

Page 61

1 Q. Uh-hm.

2 MR. CHRIS HENDERSON:

3 A. Here I would still - we will need the diesel

4 systems on the North Coast in certainly my

5 projection of time, and you need them for

6 backup. The key thing is to reduce the amount

7 of diesel capital you have there, so can you

8 have one or two motors rather than three,

9 four, or five - actually, it's only two with

10 four, none with five. Can you reduce the

11 amount of diesel fuel you consume? I mean,

12 diesel fuel costs represents about 80 percent

13 of the total systems cost currently. The rest

14 being the capital cost of the system. So

15 that's where a combination of efficiency,

16 conservation, and renewables comes into play.

17 It's quite conceivable, in my view, that one

18 can probably reduce the diesel load by close

19 to 50 percent, the demand consumption over the

20 next five to seven years.

21 MR. YOUNG:

22 Q. With renewables?

23 MR. CHRIS HENDERSON:

24 A. With a combination of efficiency, advanced

25 efficiency and renewables, but always go to

Page 62

1 efficiency first.

2 MR. YOUNG:

3 Q. I agree with that.

4 MR. CHRIS HENDERSON:

5 A. And conservation. That's where the numbers

6 are the best. That requires a non-capital

7 expenditure or a capital expenditure because

8 there's a quicker pay back.

9 MR. YOUNG:

10 Q. You touched upon another interesting thing.

11 We've had some experience with this, although

12 we haven't had great success at all, I would

13 add, and real logistical challenges; district

14 heating is the word that we use, and you

15 mentioned you had some knowledge of that for

16 diesel plants. Essentially, just for

17 everyone's understanding, it's recovering heat

18 loss and using that.

19 MR. CHRIS HENDERSON:

20 A. Yeah, when you burn diesel in a motor, like a

21 lot of motors, you create heat along with

22 creating power or some form of energy. One

23 can put waterjackets around these diesel

24 engines and, therefore, you can use that hot

25 water for space heating. So if you go to one

Page 63

1 of those plants, they're reasonably nice and

2 cosy even in winter months for that reason.

3 The challenge is - this is where community

4 energy planning comes in, is that where the

5 diesel plants are sometimes located, Rigolet

6 is down in the middle of the community, but

7 others are a bit away from the main buildings,

8 and then you have to take that heat somewhere,

9 so that means you have to ship it, you're in

10 bedrock.

11 MR. YOUNG:

12 Q. Exactly.

13 MR. CHRIS HENDERSON:

14 A. And getting it from that site to another site

15 is a problem. However, if you had certain

16 community facilities that were being built

17 nearby, so in Hopedale, for example, the

18 recreation centre is not very far at all, it's

19 about 150 meters from the diesel plant, that's

20 being built now, so maybe, you know, waste

21 heating from the diesel plant into the

22 recreation centre is a possibility. That's a

23 diesel based district, so that's combined heat

24 power. The other district of combined heat

25 power, though, is with biomass. I think the

Page 64

1 community in Postville, which used to have a

2 lumber mill, the facility is largely still

3 there, that has great potential. That's where

4 you'll find very real interest in the

5 Government of Canada to participate with that.

6 Even district heating for homes can change.

7 Part of our work in the energy security plan

8 last year we conducted an assessment of

9 district heating for homes. Here's an

10 example, if you go into a smaller home, you

11 may have a shed outside of it which a boiler.

12 You put the wood into that, put maybe three or

13 four logs for a cold night, it burns glycol or

14 a certain kind of liquid that then goes in

15 small little PVC lines that goes into the

16 home. Now in the past, you could only do this

17 with a home that had cement slabs. Well, the

18 technology has now evolved to put those PVCs

19 directly into wood frame homes with wood frame

20 floors. You can actually buy the wood

21 flooring with the PVC installed. We did the

22 numbers on that, the pay back we think is

23 around four years. Now that's on the heat

24 side, but some of the facilities you have are

25 using electric for heat, but heat is a reality

<p style="text-align: right;">Page 65</p> <p>1 for everybody in Nunatsiavut. 2 MR. YOUNG: 3 Q. Right. 4 MR. CHRIS HENDERSON: 5 A. So district heating has some potential in the 6 region, but for the diesel plants, not a lot 7 because of the nature of the geology and the 8 nature of the community design, but probably 9 would have looked at it for Hopedale. 10 MR. YOUNG: 11 Q. Our experience, as I mentioned, is somewhat 12 limited, and the bedrock, the distances, the 13 lead loss is the issues, yeah. 14 MR. CHRIS HENDERSON: 15 A. Right. 16 MR. YOUNG: 17 Q. One last thing, and it's in your additional 18 information, I'm quite interested in this 19 actually, is the variable speed diesels. I'm 20 just curious what size units they would be, 21 because there's one in BC that's being looked 22 at, you said? 23 MR. CHRIS HENDERSON: 24 A. Yes, from 100 megawatts up to 10 megawatts. 25 MR. YOUNG:</p>	<p style="text-align: right;">Page 67</p> <p>1 MR. YOUNG: 2 Q. Okay, so you can add one of these units? 3 MR. CHRIS HENDERSON: 4 A. Yeah. You'd probably have to make some 5 changes to control systems to allow them to be 6 integrated with the current system. 7 MR. YOUNG: 8 Q. I can see the value of that if you were 9 putting on that incremental system. 10 MR. CHRIS HENDERSON: 11 A. Sure. 12 MR. YOUNG: 13 Q. If you had two units on at sort of full load, 14 looking at two more - 15 MR. CHRIS HENDERSON: 16 A. Right. 17 MR. YOUNG: 18 Q. Just that one and (unintelligible). It's 19 interesting and something to look forward to. 20 Thank you, Mr. Henderson, that's all my 21 questions. 22 MR. CHRIS HENDERSON: 23 A. Thank you. 24 CHAIRMAN: 25 Q. Mr. O'Brien.</p>
<p style="text-align: right;">Page 66</p> <p>1 Q. No, kilowatts? 2 MR. CHRIS HENDERSON: 3 A. I'm sorry, from 100 kilowatts to about 10 4 megawatts. 5 MR. YOUNG: 6 Q. Okay. 7 MR. CHRIS HENDERSON: 8 A. It can be sized - they're sized differently. 9 I can certainly be pleased to share additional 10 information about the company. I mean, these 11 are the kinds of innovations that we're just 12 really looking into because you will have to 13 replace the diesel system sometime in the next 14 years, I would imagine, in the region, or 15 expand, and the potential for variable speed 16 systems - the challenge may be technically 17 integrating the variable speed with the 18 existing fixed speed systems. 19 MR. YOUNG: 20 Q. Right. 21 MR. CHRIS HENDERSON: 22 A. But doable, not - it's been done. It's just 23 not the plant you have now, but it's not 24 requiring a wholesale plant replacement 25 either.</p>	<p style="text-align: right;">Page 68</p> <p>1 MR. O'BRIEN: 2 Q. No questions. 3 CHAIRMAN: 4 Q. Mr. Johnson. 5 MR. CHRIS HENDERSON - CROSS-EXAMINATION BY JOHNSON, Q.C.: 6 JOHNSON, Q.C.: 7 Q. I did, and Mr. Young picked up on that because 8 I think the diesel will be with us for some 9 time to come, and as regards the development 10 of that technology by Innovus Power of 11 California, when was it developed? 12 MR. CHRIS HENDERSON: 13 A. About five years ago. 14 JOHNSON, Q.C.: 15 Q. About five years ago, and are the capital cost 16 of these units - do you know much about the 17 capital cost relative to what we've 18 traditionally been using in the isolated 19 communities in this jurisdiction? 20 MR. CHRIS HENDERSON: 21 A. They would be slightly higher, probably in the 22 range of 10 to 12 percent higher than your 23 current capital cost, but a reduction offset 24 of that are up to 30 to 35 percent reduction 25 in diesel fuel consumption.</p>

Page 69	Page 71
<p>1 JOHNSON, Q.C.:</p> <p>2 Q. In your additional information, you indicated,</p> <p>3 as you've testified, that Innovus is working</p> <p>4 with several Canadian utilities, including BC</p> <p>5 Hydro and Northwest Territories Power to</p> <p>6 determine the feasibility of site</p> <p>7 demonstration, so what sort of work are they</p> <p>8 doing, just visiting the California</p> <p>9 operations, going through the figures, is that</p> <p>10 what it's consisting of up to this point?</p> <p>11 MR. CHRIS HENDERSON:</p> <p>12 A. They're looking actually at physical</p> <p>13 installation in BC some time in the next year.</p> <p>14 JOHNSON, Q.C.:</p> <p>15 Q. Okay.</p> <p>16 MR. CHRIS HENDERSON:</p> <p>17 A. So they're now in negotiation of that</p> <p>18 contract.</p> <p>19 JOHNSON, Q.C.:</p> <p>20 Q. All right, those were my questions. Thank you</p> <p>21 very much.</p> <p>22 CHAIRMAN:</p> <p>23 Q. Do you have any?</p> <p>24 GREENE, Q.C.:</p> <p>25 Q. Yes, Mr. Chair.</p>	<p>1 to the last question, and that is on variable</p> <p>2 speed systems and better control systems, more</p> <p>3 advanced control systems and how diesel demand</p> <p>4 and supply is matched. The key thing with</p> <p>5 diesel is to not shut a diesel motor on.</p> <p>6 That's what you want to do, and that requires,</p> <p>7 as I said, peak load shaving and demand</p> <p>8 management. That's also behaviour based. I'll</p> <p>9 give you an example of a grid question in</p> <p>10 Ontario. In Ontario now, if you turn on your</p> <p>11 dryer at 7 at night versus 10 at night, you</p> <p>12 pay more. So in our home, we're a bit frugal,</p> <p>13 my heritage is Scottish and Indian, and so</p> <p>14 we're rather cheap in our family, so we don't</p> <p>15 turn on the dryers until 10 at night. Now you</p> <p>16 don't have that variable price -</p> <p>17 CHAIRMAN:</p> <p>18 Q. Which is cheaper, I've got to ask you, Indian</p> <p>19 or a Scotsman?</p> <p>20 MR. CHRIS HENDERSON:</p> <p>21 A. There's a big debate in our family about that,</p> <p>22 sir. As a Henderson, I'm a Scot, but you can</p> <p>23 see by my pigment, I've got a little bit of</p> <p>24 Indian as well. My joke, sir, if I might, is</p> <p>25 that I say I'm the real Indian because</p>
<p>Page 70</p> <p>1 MR. CHRIS HENDERSON - CROSS-EXAMINATION BY GREENE, Q.C.:</p> <p>2 GREENE, Q.C.:</p> <p>3 Q. Good morning, Mr. Henderson. You mentioned</p> <p>4 that you had met with representatives of Hydro</p> <p>5 in Happy Valley Goose Bay, and you also</p> <p>6 visited certain of the diesel plants, I</p> <p>7 believe, in three communities. You mentioned</p> <p>8 that the plants were okay for three to five</p> <p>9 years ago, but that they were not utilizing</p> <p>10 current initiatives, and I wanted to ask you</p> <p>11 what in your opinion are the top priorities</p> <p>12 that Hydro should be looking at to implement?</p> <p>13 MR. CHRIS HENDERSON:</p> <p>14 A. Let me, if I might, answer that in two ways.</p> <p>15 One about the diesel plants and then secondly</p> <p>16 about the communities. With respect to the</p> <p>17 diesel plants, I do believe that to the</p> <p>18 question asked earlier with regards to</p> <p>19 combined heat power and the waterjacket</p> <p>20 potential, I think there is some of that in</p> <p>21 one or two communities. It requires an</p> <p>22 integration between the diesel plant and</p> <p>23 community planning to be able to do that. I</p> <p>24 do think on the diesel plants, the main</p> <p>25 opportunities to look at, the response I gave</p>	<p>Page 72</p> <p>1 Christopher Columbus was looking for my people</p> <p>2 versus finding the Indians that were here in</p> <p>3 Canada, and one time one Indian fellow said to</p> <p>4 me, Chris, I don't mind that Christopher</p> <p>5 Columbus was looking for you people, I'm just</p> <p>6 glad he wasn't looking for the Virgin Islands.</p> <p>7 To that question, I mean, I think the</p> <p>8 management of the systems, I think the people</p> <p>9 in Newfoundland and Labrador Hydro are good,</p> <p>10 they're very committed, but the diesel systems</p> <p>11 on a controlled basis can be improved better,</p> <p>12 but that requires more investment. The</p> <p>13 challenge here is that I don't think you can</p> <p>14 look at the diesel power plants in isolation</p> <p>15 from the whole community, and the promotion of</p> <p>16 energy efficiency, so on the behaviour side if</p> <p>17 you can charge someone in Nunatsiavut less for</p> <p>18 cooking at 7 at night or 10 at night, which</p> <p>19 you don't want to, perhaps it's an education</p> <p>20 process. For example, that's not going to be</p> <p>21 done by someone knocking door to door from</p> <p>22 Newfoundland Power saying would you like an</p> <p>23 LED bulb, that's got to be people in the</p> <p>24 community saying if we do this, and we change</p> <p>25 our behaviour patterns on use, we may not need</p>

Page 73	Page 75
<p>1 that motor shutting on at 7 at night. There's</p> <p>2 a more systemic approach to remote communities</p> <p>3 that is needed, that is behaviour based and</p> <p>4 conservation, that links demand with the</p> <p>5 actual generating system, and then looking at</p> <p>6 efficiency - secondly, efficiency, and then on</p> <p>7 renewables. So if I get to your question that</p> <p>8 what can be done by Newfoundland and Labrador</p> <p>9 Hydro strictly in the diesel plants, something</p> <p>10 on waste heat recovery and definitely</p> <p>11 something on variable speed motors, but you</p> <p>12 really aren't (phonetic) tapping the potential</p> <p>13 of the system without looking at the rest. I</p> <p>14 would not - that's not the way the energy</p> <p>15 security plan that the Nunatsiavut Government</p> <p>16 commission is approaching. We're approaching</p> <p>17 it on an holistic basis.</p> <p>18 GREENE, Q.C.:</p> <p>19 Q. And the final question, and it's not a legal</p> <p>20 question in terms of the Board's jurisdiction,</p> <p>21 but in terms of what you would like the Board</p> <p>22 to take into account and what are you hoping</p> <p>23 that the Board will ask or direct, or take</p> <p>24 into account, with respect to your evidence</p> <p>25 and that of Minister Shiwak?</p>	<p>1 I think there's also opportunity to do</p> <p>2 collectively an even better job in the future.</p> <p>3 GREENE, Q.C.:</p> <p>4 Q. Thank you. Those are all my questions.</p> <p>5 (10:45 a.m.)</p> <p>6 MR. CHRIS HENDERSON - CROSS-EXAMINATION BY VICE-CHAIR</p> <p>7 WHALEN:</p> <p>8 VICE-CHAIR WHALEN:</p> <p>9 Q. I just have one. I'm interested in the energy</p> <p>10 security plan that you say is eminent. Is</p> <p>11 that plan going to be strategic in nature or</p> <p>12 action oriented?</p> <p>13 MR. CHRIS HENDERSON:</p> <p>14 A. It's both.</p> <p>15 VICE-CHAIR WHALEN:</p> <p>16 Q. Okay.</p> <p>17 MR. CHRIS HENDERSON:</p> <p>18 A. It includes a strategic approach that on an</p> <p>19 action basis proposes specific short term</p> <p>20 actions that in the next year or two have a</p> <p>21 lower capital cost impact. For example, I do</p> <p>22 believe that coordinated within the</p> <p>23 Nunatsiavut Government impacting on</p> <p>24 behavioural changes of energy can have a</p> <p>25 concrete impact on diesel consumption. It</p>
<p>1 MR. CHRIS HENDERSON:</p> <p>2 A. Well, I want to be truly respectful here,</p> <p>3 because first of all, I'm not from here, and,</p> <p>4 I mean - well, the first time I came here, and</p> <p>5 told me I was a CFA. I said, no, I'm not a</p> <p>6 certified financial analyst. I leave the</p> <p>7 Board to its judgment because you sat through</p> <p>8 the testimony and know the whole picture.</p> <p>9 However, what I do think, and I don't think</p> <p>10 this is offline from where Newfoundland and</p> <p>11 Labrador Hydro is, nor where the province is,</p> <p>12 I think that with a more holistic community</p> <p>13 energy planning process and the consideration</p> <p>14 and due diligence of technologies in</p> <p>15 efficiency, we can reduce the pressures in the</p> <p>16 future on island rate payers as a whole.</p> <p>17 However, I think the testimony given by the</p> <p>18 Minister, which is part of my expert report, I</p> <p>19 really think one needs to consider the unique</p> <p>20 social circumstances and climatic</p> <p>21 circumstances and community circumstances of</p> <p>22 people in the region of Nunatsiavut. Any rate</p> <p>23 cost share has a big impact on their</p> <p>24 livelihoods and wellbeing, that I know is</p> <p>25 going to be part of the PUB calibrations, but</p>	<p>1 includes medium term, looks at specific</p> <p>2 renewable power opportunities, the ones I've</p> <p>3 mentioned like solar storage, potentially wind</p> <p>4 and hydro, and it looks at the longer term</p> <p>5 about the actual community infrastructure in</p> <p>6 the region, which can only occur over a</p> <p>7 capital cycle of a decade or two or more on</p> <p>8 how buildings are designed and how they are</p> <p>9 built to standard. So what we start to do is</p> <p>10 have a strategy plan that is also</p> <p>11 collaborative. We believe the plan we</p> <p>12 presented by the Nunatsiavut Government to</p> <p>13 Newfoundland and Labrador Hydro, the Public</p> <p>14 Utilities Board, and the province, to say,</p> <p>15 okay, how can we now make this a collective</p> <p>16 plan of all parties, and decide there, but</p> <p>17 some specifics are proposed in both the short,</p> <p>18 medium, and long term.</p> <p>19 VICE-CHAIR WHALEN:</p> <p>20 Q. That sounds like a valuable piece of work and</p> <p>21 I look forward to seeing it. Thank you very</p> <p>22 much.</p> <p>23 CHAIRMAN:</p> <p>24 Q. Sir, I must advise you to achieve non CFA</p> <p>25 status, the probationary period is between 20</p>

Page 77

1 and 25 years.
2 MR. CHRIS HENDERSON:
3 A. Thank you, sir. I shall keep that under
4 advisement.
5 CHAIRMAN:
6 Q. Thank you, Madam Dawson. I presume you are
7 finished.
8 MS. DAWSON:
9 Q. Yes, thank you.
10 CHAIRMAN:
11 Q. I guess we now are adjourned until presumably
12 Thursday.
13 MS. GLYNN:
14 Q. Right now, we do have a public presentation
15 scheduled for Thursday. We will confirm as
16 quickly as we can.
17 CHAIRMAN:
18 Q. Thank you.
19 (UPON CONCLUDING AT 10:47 A.M.)

Page 78

1 CERTIFICATE
2 I, Judy Moss, hereby certify that the foregoing is a true
3 and correct transcript of a hearing in the matter of
4 Newfoundland and Labrador Hydro's General Rate
5 Application heard on the 30th of November, A.D., 2015
6 before the Commissioners of the Public Utilities Board,
7 St. John's, Newfoundland and Labrador and was transcribed
8 by me to the best of my ability by means of a sound
9 apparatus.
10 Dated at St. John's, Newfoundland and Labrador
11 this 30th day of November, A.D., 2015
12 Judy Moss
13

-\$-	-8-	advisor [4] 31:18 32:10 33:11 36:1	64:8	biomass [8] 51:23,24 52:1,4,7,12 63:25
\$1.34 [1] 9:24	80 [1] 61:12	affect [1] 21:8	assuming [1] 2:1	bit [20] 2:7 3:3 5:17,23 7:11,15,16 8:24 14:6,12 18:1 21:7 31:5 38:19 49:11 54:17 57:20 63:7 71:12,23
\$1.50 [1] 9:24	-9-	affirmed [1] 30:13	availability [2] 12:1,12	black [1] 17:6
\$600.00 [1] 38:3	90 [1] 59:22	afford [7] 8:20 12:16 13:3,7 17:23 22:8 26:23	available [7] 24:12,18 25:7,17 26:10 36:23 41:17	blend [1] 47:5
-&-	9:07 [1] 1:1	affordable [3] 16:20 19:25 25:12	average [2] 6:24 38:1	bluff [1] 58:15
& [1] 60:16	9:15 [1] 9:19	again [16] 8:16,25 9:17 12:15 13:3 20:24 21:16 22:6,6,7,22 23:1 30:17 41:16 51:14 56:16	aware [6] 24:16 26:5 43:6 57:20,22 58:2	Board [19] 2:6 14:12 31:6 32:21 34:14,23 35:21,23 36:24 37:6 38:11 45:21 52:16 57:22 73:21,23 74:7 76:14 78:6
-1-	9:30 [1] 20:18	against [3] 10:18 21:2 26:17	away [1] 63:7	Board's [1] 73:20
10 [6] 65:24 66:3 68:22 71:11,15 72:18	9:38 [1] 30:6	ago [12] 6:11 34:23 36:3 36:21 40:22 42:24 43:11 47:2,22 68:13,15 70:9	-B-	boiler [1] 64:11
100 [4] 33:6 44:19 65:24 66:3	9:46 [1] 30:7	agree [2] 26:7 62:3	babies [1] 2:16	book [1] 47:23
10:00 [1] 44:10	-A-	agreed [1] 56:6	baby [1] 2:15	born [4] 2:13,13,13,17
10:30 [1] 57:7	A.D [2] 78:5,11	akin [1] 44:22	background [3] 2:7 31:7,9	borne [1] 43:15
10:45 [1] 75:5	a.m [9] 1:1 9:19 20:18 30:6,7 44:10 57:7 75:5 77:19	Alaska [1] 56:14	backup [2] 41:10 61:6	BREAK [1] 30:6
10:47 [1] 77:19	ability [2] 12:18 78:8	Alberta [1] 53:8	bad [1] 9:7	brief [1] 56:11
11 [1] 24:1	able [6] 17:22 19:21 26:9 26:10 54:7 70:23	allow [2] 55:1 67:5	barrier [2] 22:23,24	bring [3] 6:21 19:13 51:11
12 [2] 2:22 68:22	Aboriginal [1] 47:24	allows [2] 20:1 41:10	barriers [5] 22:12,19,20 26:15,17	bringing [2] 10:7 19:10
136 [2] 6:21,22	Absolutely [2] 1:19 29:14	almost [2] 41:1 43:13	Barron [1] 33:15	Brochet [1] 33:15
150 [1] 63:19	access [3] 13:24 27:20 39:17	along [3] 53:5 55:6 62:21	base [2] 10:17 45:15	broken [1] 13:14
18 [1] 3:18	accessibility [1] 24:7	alternate [2] 16:21 19:22	based [5] 4:17 37:1 63:23 71:8 73:3	Brook [1] 2:24
-2-	account [2] 73:22,24	always [2] 3:4 61:25	basis [5] 3:23 36:3 72:11 73:17 75:19	budget [3] 37:22,23 38:6
20 [3] 31:14 33:12 76:25	accountability [1] 37:17	among [1] 56:4	battery [1] 59:17	building [6] 19:3 39:16 39:17 42:18 43:22 55:1
20-25 [1] 32:13	accounting [1] 43:2	amount [6] 15:15 38:4 44:16,16 61:6,11	Bay [4] 3:6 15:6 46:14 70:5	building-wise [1] 43:22
20/25 [1] 41:8	achieve [1] 76:24	analyst [1] 74:6	BC [7] 33:18 41:5 45:2 53:8 65:21 69:4,13	buildings [4] 37:21 47:5 63:7 76:8
2006 [1] 4:21	act [1] 35:25	anemometers [1] 58:6	bear [1] 38:3	built [8] 24:25 27:10 37:21 51:9 54:3 63:16 63:20 76:9
2009 [4] 40:14,22,23 60:1	acting [1] 31:17	announced [3] 54:20 55:21 59:20	becomes [1] 12:13	bulb [2] 49:4 72:23
2014 [1] 41:15	action [2] 75:12,19	answer [2] 20:19 70:14	becoming [2] 37:19 44:1	bump [2] 13:4,5
2015 [3] 34:24 78:5,11	actions [1] 75:20	apologize [1] 52:21	bedrock [2] 63:10 65:12	burden [2] 10:21 20:20
23 [1] 33:12	actual [2] 73:5 76:5	apparatus [1] 78:9	beg [1] 29:9	burn [3] 11:13 12:5 62:20
241 [1] 31:3	add [4] 38:5 52:16 62:13 67:2	appear [1] 5:11	beginning [3] 4:21,25 16:23	burning [5] 9:16 12:25 14:9 21:19,19
25 [2] 31:11 77:1	addition [2] 43:4 53:22	appliances [1] 39:16	behaviour [5] 48:24 71:8 72:16,25 73:3	burns [1] 64:13
-3-	additional [11] 30:18 34:21 35:4 40:10 52:15 52:17 54:10 56:4 65:17 66:9 69:2	Application [1] 78:5	behavioural [2] 49:2 75:24	business [10] 3:25 22:10 22:11,14,15,18,23 39:12 54:23 55:8
30 [1] 68:24	address [1] 19:11	apply [1] 26:16	behind [1] 46:21	businesses [3] 10:9 44:9 45:23
30/35 [1] 45:1	addressing [1] 27:12	appreciate [1] 49:24	beneficial [1] 56:9	buy [4] 13:3,18 51:15 64:20
300 [1] 2:19	adds [1] 10:21	appreciated [2] 37:25 53:3	best [3] 22:15 62:6 78:8	buying [1] 8:9
300 [1] 2:19	adjourned [2] 29:4 77:11	appreciation [1] 37:7	better [8] 4:16 14:21 42:14 50:17 56:17 71:2 72:11 75:2	-C-
30th [2] 78:5,11	adjournment [1] 29:12	approach [10] 32:2 39:24 40:3 41:25 42:1 43:21 45:6 49:8 73:2 75:18	between [7] 36:7 37:16 41:22 48:20 49:16 70:22 76:25	cable [1] 8:10
35 [1] 68:24	adjust [1] 44:20	approaching [2] 73:16 73:16	big [11] 11:1,2 12:8 15:20 15:21 22:19 26:17,19 48:18 71:21 74:23	calibrations [1] 74:25
-4-	adopt [3] 6:12 34:24 35:15	area [3] 18:18 34:2,10	biggest [1] 49:9	California [3] 44:13 68:11 69:8
40 [2] 9:13 59:18	advance [3] 16:15,16 17:20	areas [1] 57:16	bill [12] 8:10,11,11 9:17 10:11,23 11:1,4 21:13 21:14 22:3,4	Canada [17] 31:13,16 32:11 37:2 41:4 42:12 48:1 49:12 51:7 52:6,25 53:22 54:13 59:16,23 64:5 72:3
-5-	advanced [3] 47:8 61:24 71:3	argument [1] 19:9	bills [1] 10:24	
5 [4] 30:20 35:8,12,14	advancement [1] 15:19	arises [1] 24:1	bio-mass [1] 40:19	
50 [3] 9:13 44:19 61:19	advantage [2] 26:3 36:10	arrangement [1] 51:6		
-6-	advise [2] 33:1 76:24	art [2] 46:21 47:1		
60 [3] 42:19 43:14 60:4	advised [1] 33:21	aspects [1] 39:15		
65 [1] 41:1	advisement [1] 77:4	assembly [1] 3:17		
-7-		assertively [1] 41:13		
7 [3] 71:11 72:18 73:1		assessment [2] 56:22		

Canadian [4] 4:22 53:6 56:15 69:4	70:13 71:20 72:4 74:1 75:6,13,17 77:2	9:20,25 10:6,8,19 11:20 12:2,5,6,20 14:1,16,18 14:22 15:13,14,16,19,20 15:22 16:6,11,13 17:2 17:11,14,17,19 18:2,14 19:1,15,23,25 20:1 21:3 21:16 22:17,25 23:8 26:2 26:12,13,22 27:2,5 31:15 31:18,19 32:11,21,23 33:12,17,23 39:25 40:1 40:8 41:20 42:11 46:3,5 46:10,15,16 47:21,25 48:2,4 49:10,17 50:18 51:21 52:10 53:16 56:3 56:20 58:23 68:19 70:7 70:16,21 73:2	consumer [1] 22:1 consumes [1] 44:15 consumption [5] 44:17 45:1 61:19 68:25 75:25 consumptions [1] 36:8 contents [2] 34:24 35:22 context [2] 24:14 43:5 contract [1] 69:18 contribution [1] 43:12 control [5] 41:2 44:23 67:5 71:2,3 controlled [1] 72:11 convenient [1] 12:11 conversation [1] 24:3 conversion [1] 33:12 conversions [1] 41:6 converters [1] 60:2 converters/inverters [1] 41:3 converting [1] 31:21 cooking [1] 72:18 coordinated [1] 75:22 Corner [1] 2:24 Corporation [1] 33:2 correct [4] 1:9 29:24 40:20 78:3 cost [47] 8:5,9,10,13 9:1 9:6,13,20,22,23 10:4,5,7 10:12 11:19,20 21:2,3 22:12,20,21,21 23:5 27:16 34:7,9,17 38:1,5 38:22 43:1,14,15 44:1 48:18 49:10 53:1 60:4,6 60:11 61:13,14 68:15,17 68:23 74:23 75:21 costly [4] 10:8 18:15,16 18:16 costs [16] 7:6 8:7,15 9:5 10:18 26:8,24 32:7 36:4 36:11 40:24 41:10 44:21 50:3 59:17 61:12 cosy [1] 63:2 Council [1] 36:20 couple [6] 23:25 30:3 51:20 53:3 57:16,19 course [4] 31:24 37:3,14 60:15 cover [1] 23:5 covered [2] 8:16 36:16 covering [1] 43:13 covers [1] 42:17 crab [1] 16:1 crazy [1] 49:12 create [2] 4:17 62:21 creating [1] 62:22 creative [1] 45:10 crew [1] 15:5 CROSS-EXAMINATION [5] 23:17 57:12 68:5 70:1 75:6 crumbs [1] 13:22 cultural [3] 51:9,16 54:3	Culture [1] 5:1 curious [1] 65:20 current [3] 67:6 68:23 70:10 cut [2] 12:10 60:10 cycle [1] 76:7 <hr/> -D- <hr/> D [1] 60:16 daily [2] 3:23 11:3 Dan [1] 4:21 Darryl [4] 1:8,20 2:11 23:17 data [1] 58:19 Dated [1] 78:10 Dawson [42] 1:21,23,25 2:5 5:19 6:10,16 11:23 14:11 17:24 18:6 21:6 23:9 29:1,5,10,15,19,23 30:9,10,15,17,21,25 32:14,19 33:25 35:3,9 35:13,18 46:1,19 47:13 50:16 52:14 54:15 55:18 57:4 77:6,8 day-to-day [1] 23:7 deal [2] 19:8 43:10 dealing [1] 4:6 debate [1] 71:21 decade [1] 76:7 decades [1] 19:8 decide [1] 76:16 decided [1] 3:9 deficit [2] 47:17,20 definite [1] 60:11 definitely [2] 40:20 73:10 degree [1] 2:24 demand [9] 39:1 44:25 46:13 48:7,20 61:19 71:3 71:7 73:4 demands [1] 55:12 demonstration [2] 51:11 69:7 dependability [1] 14:14 depending [2] 3:12 15:2 description [1] 36:14 design [1] 65:8 designed [1] 76:8 desire [1] 37:10 detail [1] 60:1 details [2] 54:9 55:17 determine [1] 69:6 developed [3] 55:6,16 68:11 development [4] 5:3 32:2 34:3 68:9 diesel [65] 14:18,18,19 15:8 16:4,14 17:1,14 18:14 19:23 21:21 31:21 31:22,22 33:3,6,13,17 33:20 38:18 43:18 44:11 44:13,16,20,25 46:6,12 46:20,25 47:4,8 48:16
---	--	---	---	---

<p>53:2 55:12 60:9,12 61:3 61:7,11,12,18 62:16,20 62:23 63:5,19,21,23 65:6 66:13 68:8,25 70:6,15 70:17,22,24 71:3,5,5 72:10,14 73:9 75:25</p> <p>diesels [1] 65:19</p> <p>different [10] 3:5,25 4:13 6:25 16:18 19:21 33:19 34:8,20 50:18</p> <p>differently [1] 66:8</p> <p>difficult [2] 16:14 22:10</p> <p>diligence [1] 74:14</p> <p>direct [1] 73:23</p> <p>direction [2] 53:20 57:5</p> <p>directly [1] 64:19</p> <p>discussion [1] 57:18</p> <p>distance [1] 51:25</p> <p>distances [1] 65:12</p> <p>district [6] 62:13 63:23 63:24 64:6,9 65:5</p> <p>doable [1] 66:22</p> <p>doesn't [2] 1:13 56:20</p> <p>donated [1] 51:8</p> <p>done [16] 27:2,22 30:24 36:17 38:13 39:23 40:17 45:13 48:14,25 49:8,16 52:5 66:22 72:21 73:8</p> <p>door [2] 72:21,21</p> <p>down [16] 9:13 13:14 15:1 20:14 40:24 41:1,8 41:10 48:15 50:4 53:2 58:21 60:4,6,8 63:6</p> <p>drive [1] 60:8</p> <p>driving [1] 60:6</p> <p>drops [1] 44:19</p> <p>dryer [1] 71:11</p> <p>dryers [1] 71:15</p> <p>due [2] 27:9 74:14</p> <p>dwel [1] 36:15</p>	<p>either [9] 3:23 6:1,3 9:14 12:22 13:1,7 27:19 66:25</p> <p>EKATI [1] 42:23</p> <p>elaborate [2] 54:17 55:19</p> <p>elected [4] 3:11,13,14,16</p> <p>electric [5] 10:10,11 13:1 37:19 64:25</p> <p>electricity [12] 9:15 10:5 13:5 21:13,20,20 22:2 22:20 36:5 37:16 38:5 54:6</p> <p>elsewhere [6] 19:4 37:1 38:8 41:4 42:12 56:23</p> <p>eminent [1] 75:10</p> <p>employed [1] 7:21</p> <p>employment [1] 7:24</p> <p>end [3] 21:15 22:4 27:22</p> <p>ending [1] 9:3</p> <p>energy [9] 4:5 7:6 17:10 19:25 20:1 21:3,23,25 24:8 26:8 31:13,17,21 31:25 32:7,10 33:21 34:3 34:11 36:1,4,5,12,14,18 37:22,22 38:6 39:1,2,6,8 40:2,4,8,8,15,17 41:12 41:20,24 42:1,8 43:24 43:25 47:15,21,25 48:3 48:5,7,8,12,19 49:15,19 49:19,24 50:6,8,9,11,12 50:19 51:7,8,18,19,23 53:11,12,15,20,21 54:12 54:25 55:14 56:1,2 58:19 58:23 59:3,4 62:22 63:4 64:7 72:16 73:14 74:13 75:9,24</p> <p>Enerstore [1] 59:15</p> <p>engaged [1] 53:17</p> <p>engines [2] 60:10 62:24</p> <p>ensure [1] 19:24</p> <p>enter [1] 30:20</p> <p>enterprises [1] 21:9</p> <p>envelope [1] 39:17</p> <p>environment [2] 27:9 31:13</p> <p>environmental [1] 32:8</p> <p>equipment [1] 51:15</p> <p>escalates [1] 9:14</p> <p>especially [7] 8:12 11:21 14:25 17:22 25:14 27:5 37:20</p> <p>essential [1] 22:24</p> <p>essentially [2] 54:22 62:16</p> <p>established [1] 55:8</p> <p>events [1] 56:11</p> <p>eventually [2] 53:10 56:19</p> <p>everybody [3] 1:3 16:24 65:1</p> <p>everyday [2] 12:10 28:2</p> <p>everyone's [1] 62:17</p> <p>evidence [3] 25:21 35:15 73:24</p>	<p>evolved [1] 64:18</p> <p>Exactly [2] 60:18 63:12</p> <p>EXAMINATION-IN-CHIEF [2] 1:20 30:14</p> <p>example [23] 3:14 4:7 4:18 8:14 13:21 17:2 21:17 25:23 40:21 41:11 42:3,6 51:4 54:2 55:11 56:25 59:23,24 63:17 64:10 71:9 72:20 75:21</p> <p>examples [1] 56:3</p> <p>except [1] 2:21</p> <p>exception [1] 52:2</p> <p>Executive [1] 36:19</p> <p>Exhibit [3] 30:20 35:8 35:10</p> <p>exist [2] 26:14 32:6</p> <p>existing [1] 66:18</p> <p>exists [2] 15:17 37:2</p> <p>expand [1] 66:15</p> <p>expanded [1] 37:21</p> <p>expect [5] 14:25 15:1 20:11,12 58:24</p> <p>expected [2] 15:7 59:18</p> <p>expenditure [2] 62:7,7 14:10</p> <p>expensive [3] 9:4 14:2 14:10</p> <p>experience [5] 14:23 32:22 56:25 62:11 65:11</p> <p>experienced [2] 5:8,8</p> <p>experiences [2] 3:2 56:23</p> <p>expert [7] 34:2,9,25 36:13 37:4 45:17 74:18</p> <p>expertise [2] 34:7,8</p> <p>experts [1] 34:17</p> <p>explain [2] 31:6 35:22</p> <p>express [1] 37:7</p> <p>extensive [1] 48:1</p> <p>extra [5] 10:21 15:12,13 16:11,16</p>	<p>family [4] 12:22 13:16 71:14,21</p> <p>fantastic [1] 58:25</p> <p>far [4] 12:14 47:9 48:11 63:18</p> <p>fast [1] 9:12</p> <p>faster [1] 50:4</p> <p>feasibility [2] 33:7 69:6</p> <p>feasible [2] 19:12,16</p> <p>federal [7] 33:10 43:13 44:5 45:9 51:13,15 60:15</p> <p>fellow [1] 72:3</p> <p>ferry [2] 8:25 20:6</p> <p>few [2] 6:17,20</p> <p>figures [1] 69:9</p> <p>filed [7] 6:11 30:19 34:20 34:22,23 35:5 52:15</p> <p>final [5] 33:8 36:21 41:16 45:3 73:19</p> <p>finally [2] 33:21 44:11</p> <p>financial [1] 74:6</p> <p>finding [2] 12:19 72:2</p> <p>finds [1] 56:18</p> <p>fine [1] 5:18</p> <p>finished [1] 77:7</p> <p>firmly [1] 50:13</p> <p>first [16] 2:23 5:3 23:14 31:2,7,18 36:13 48:7,12 48:21 50:7,12 59:6 62:1 74:3,4</p> <p>fish [2] 15:25 51:3</p> <p>five [13] 9:2 44:19 46:9 47:2 49:22 50:18 56:12 61:9,10,20 68:13,15 70:8</p> <p>fix [1] 15:6</p> <p>fixed [1] 66:18</p> <p>fixing [2] 27:3,3</p> <p>flooring [1] 64:21</p> <p>floors [1] 64:20</p> <p>flows [1] 25:4</p> <p>fly [4] 2:16,17 20:4,5</p> <p>focus [1] 32:12</p> <p>focused [1] 34:18</p> <p>focusing [1] 46:10</p> <p>follow [1] 48:3</p> <p>food [6] 10:7,8,12 11:7 11:13,13</p> <p>footprint [1] 42:18</p> <p>foregoing [1] 78:2</p> <p>form [2] 17:21 62:22</p> <p>formed [1] 3:8</p> <p>forms [3] 17:10 40:14 42:7</p> <p>Fort [1] 56:25</p> <p>forthcoming [1] 37:9</p> <p>fortunate [2] 9:22,23</p> <p>forward [5] 37:12 41:18 55:15 67:19 76:21</p> <p>found [1] 37:8</p> <p>four [8] 48:17 49:22 56:12,19 61:9,10 64:13</p>	<p>64:23</p> <p>frame [2] 64:19,19</p> <p>framework [1] 55:5</p> <p>frank [1] 56:8</p> <p>free [3] 39:22 51:10 54:4</p> <p>front [5] 4:10 5:11 7:2 11:22 22:23</p> <p>froze [1] 9:23</p> <p>frugal [1] 71:12</p> <p>frustrating [5] 18:22,23 19:9 20:24,25</p> <p>fuel [10] 10:5 12:2 44:16 44:16,21,25 53:2 61:11 61:12 68:25</p> <p>full [4] 16:5 43:1 51:3 67:13</p> <p>fully [1] 36:10</p> <p>fund [2] 39:18 42:3</p> <p>fundamentally [2] 45:11,16</p> <p>funding [2] 51:13 60:15</p> <p>funny [1] 10:4</p> <p>future [4] 15:19 47:12 74:16 75:2</p>
<p>-E-</p>				
<p>east [1] 18:19</p> <p>eat [2] 11:16,17</p> <p>eating [1] 11:15</p> <p>economic [5] 5:3 22:16 31:25 41:21 56:22</p> <p>economically [1] 45:11</p> <p>economics [3] 32:4 42:10 45:15</p> <p>Ed [1] 2:25</p> <p>education [5] 2:8,22 5:2 49:5 72:19</p> <p>effect [2] 23:7 45:22</p> <p>effective [2] 44:1,2</p> <p>Effectively [1] 48:10</p> <p>efficiency [20] 24:9 36:9 39:2 42:1 47:22 48:8,13 48:18 49:6,20 50:9 53:21 61:15,24,25 62:1 72:16 73:6,6 74:15</p> <p>efficient [2] 33:20 39:8</p>	<p>east [1] 18:19</p> <p>eat [2] 11:16,17</p> <p>eating [1] 11:15</p> <p>economic [5] 5:3 22:16 31:25 41:21 56:22</p> <p>economically [1] 45:11</p> <p>economics [3] 32:4 42:10 45:15</p> <p>Ed [1] 2:25</p> <p>education [5] 2:8,22 5:2 49:5 72:19</p> <p>effect [2] 23:7 45:22</p> <p>effective [2] 44:1,2</p> <p>Effectively [1] 48:10</p> <p>efficiency [20] 24:9 36:9 39:2 42:1 47:22 48:8,13 48:18 49:6,20 50:9 53:21 61:15,24,25 62:1 72:16 73:6,6 74:15</p> <p>efficient [2] 33:20 39:8</p>	<p>face [2] 5:6,7</p> <p>facets [1] 24:11</p> <p>facilities [3] 47:6 63:16 64:24</p> <p>facility [3] 39:8 51:1 64:2</p> <p>fact [2] 7:12 43:13</p> <p>factor [1] 43:15</p> <p>factors [2] 38:9 59:12</p> <p>factually [1] 40:20</p> <p>fair [2] 36:16 57:20</p> <p>Fairbanks [1] 56:13</p> <p>fall [2] 4:7 17:7</p> <p>Falls [7] 13:20,22,23 18:2 18:10 19:14 20:23</p> <p>familiar [1] 60:20</p> <p>families [10] 10:16,22 11:11,15 12:16,17,19 13:8 20:20 22:7</p>	<p>face [2] 5:6,7</p> <p>facets [1] 24:11</p> <p>facilities [3] 47:6 63:16 64:24</p> <p>facility [3] 39:8 51:1 64:2</p> <p>fact [2] 7:12 43:13</p> <p>factor [1] 43:15</p> <p>factors [2] 38:9 59:12</p> <p>factually [1] 40:20</p> <p>fair [2] 36:16 57:20</p> <p>Fairbanks [1] 56:13</p> <p>fall [2] 4:7 17:7</p> <p>Falls [7] 13:20,22,23 18:2 18:10 19:14 20:23</p> <p>familiar [1] 60:20</p> <p>families [10] 10:16,22 11:11,15 12:16,17,19 13:8 20:20 22:7</p>	<p>general [2] 31:9 78:4</p> <p>generally [1] 24:3</p> <p>generate [3] 21:23 54:6 54:24</p> <p>generating [8] 17:1,15 18:15 19:24 21:21 42:18 46:20 73:5</p> <p>generation [1] 52:8</p> <p>generator [2] 16:4,14</p> <p>generators [2] 14:19 22:16</p> <p>GENEVIEVE [2] 1:21 30:15</p> <p>gentleman [1] 28:13</p> <p>gentlemen [1] 31:12</p> <p>genuine [2] 37:10 38:13</p> <p>Geoff [1] 57:14</p> <p>GEOFFREY [1] 23:17</p> <p>geology [1] 65:7</p> <p>geothermal [2] 40:19 40:21</p> <p>gift [1] 51:5</p> <p>given [5] 38:24 41:21 53:16 60:23 74:17</p> <p>glad [1] 72:6</p> <p>glycol [1] 64:13</p> <p>GLYNN [14] 1:5,14,18 5:21 6:2,6 23:13 29:13 30:2,16,23 35:7,11 77:13</p> <p>God [1] 10:2</p> <p>goes [5] 10:12 15:1 36:13 64:14,15</p> <p>gone [3] 46:3,11 53:2</p> <p>good [12] 1:3 4:15 5:20 8:5 23:20,23 26:20 27:1 39:3 57:14 70:3 72:9</p>
<p>-G-</p>				

<p>Google [1] 47:23 Goose [3] 15:6 46:14 70:5 government [38] 3:8,10 4:25 17:19 25:5 27:13 32:16 33:2,9,11 34:1 36:1,2,20,22 41:15 42:6 43:13 44:5 45:5,9 49:1 49:17 50:14 51:13 52:6 53:5,23,25 54:23,24 55:9 55:21 57:21 64:5 73:15 75:23 76:12 governments [3] 19:11 53:6 56:6 Gray [1] 6:22 great [3] 3:1 62:12 64:3 greater [1] 41:23 greatest [1] 51:18 GREENE [6] 28:14 69:24 70:1,2 73:18 75:3 grid [9] 44:24 53:14 54:8 54:12 55:3,4,20 56:3 71:9 groceries [1] 8:10 ground [2] 37:3 56:21 grounded [1] 36:25 grow [3] 17:20 20:2 22:11 growing [2] 5:8 17:18 guess [13] 5:10,15,17 8:5 13:22 19:9 21:11 23:16 28:25 29:4 30:9,13 77:11</p> <hr/> <p style="text-align: center;">-H-</p> <p>half [5] 12:4 33:5 43:11 45:18 48:12 happening [4] 15:21 21:1 22:25 37:1 happenstance [1] 42:21 happy [3] 16:24,24 70:5 hard [2] 22:14,17 harsher [1] 9:11 hear [1] 17:18 heard [2] 13:13 78:5 hearing [1] 78:3 heat [28] 9:15 10:10 12:6 13:1,4,9,12,16 22:21 33:6 36:6 37:18,19,23 47:4,5 48:9 52:8 62:17 62:21 63:8,23,24 64:23 64:25,25 70:19 73:10 heating [11] 13:2 14:7,7 38:2 41:22 62:14,25 63:21 64:6,9 65:5 help [2] 55:12 59:2 helpful [2] 37:9 51:2 helps [2] 14:6 19:23 Henderson [62] 29:22 30:12,12,14,19 31:1,10 32:17,24 34:2,20 35:1 35:16,24 46:2,8,24 47:18 50:20 52:19 54:18 55:23 57:12,14,24 58:3,9,13 59:13 60:17,21 61:2,23 62:4,19 63:13 65:4,14</p>	<p>65:23 66:2,7,21 67:3,10 67:15,20,22 68:5,12,20 69:11,16 70:1,3,13 71:20 71:22 74:1 75:6,13,17 77:2 Henderson's [1] 34:8 hereby [1] 78:2 heritage [1] 71:13 high [8] 7:17,20 8:13,20 8:23 10:1,3,6 higher [5] 7:11,15 10:11 68:21,22 hike [6] 10:20 13:6 19:1 22:5,5,22 hikes [1] 20:19 holistic [8] 39:6,7,24 41:24,25 43:21 73:17 74:12 home [22] 11:6 13:2,10 14:6 26:9 27:3,7,15 38:2 38:3 39:12,15,24 41:25 44:9 54:22 59:21,21 64:10,16,17 71:12 homeowners [1] 24:13 homes [9] 9:16 24:24 27:6,7,12 37:18 64:6,9 64:19 honest [2] 49:25 58:25 Hopedale [17] 2:21 3:1 3:17,20 7:9 10:14 12:12 14:1 15:11 40:6 46:11 50:25 52:10 57:25 58:5 63:17 65:9 hoping [1] 73:22 hot [3] 26:1 51:14 62:24 house [2] 13:15,16 housing [9] 25:1,4,5,7,9 25:10,11,12,15 huge [1] 16:8 hybrids [1] 31:22 hydro [41] 8:11 9:6,14 10:20,23 11:1,4,10,12 16:9 17:13 18:25 21:13 23:6,14 31:23 33:3,8,16 37:6 38:12 39:14 40:14 45:2,8,20 46:4 51:1,21 52:11 56:19 57:15,21 69:5 70:4,12 72:9 73:9 74:11 76:4,13 Hydro's [1] 78:4 hydrogen [2] 43:7 60:24</p> <hr/> <p style="text-align: center;">-I-</p> <p>idea [1] 50:17 identified [1] 52:7 identify [1] 36:7 Illusuak [2] 51:8,16 imagine [1] 66:14 impact [13] 18:1,4,9,11 38:21 44:7 47:20 48:18 49:10 60:11 74:23 75:21 75:25 impacting [1] 75:23 impacts [3] 32:8 37:24 45:14</p>	<p>implement [1] 70:12 important [2] 5:17 47:19 importantly [1] 39:25 improve [1] 56:1 improved [2] 37:11 72:11 incandescent [1] 49:4 includes [2] 75:18 76:1 including [7] 3:18 17:8 21:13 33:20 44:4 53:7 69:4 income [11] 6:25 7:3,4 10:14,16 11:21 12:15 13:18 25:15 27:18 38:7 increase [3] 21:8,12 25:13 increasing [1] 16:19 incremental [1] 67:9 Indian [5] 71:13,18,24 71:25 72:3 Indians [1] 72:2 indicated [1] 69:2 indigenous [3] 31:15,18 47:25 individual [1] 39:7 individuals [2] 37:8 46:17 inform [1] 56:24 information [11] 30:18 34:22 35:4,6 52:15,17 54:11 56:4 65:18 66:10 69:2 infrastructure [1] 76:5 initiative [4] 26:20 55:21 55:24,25 initiatives [2] 39:21 70:10 innovation [5] 43:17 44:3,12 50:6 56:2 innovations [8] 32:3 33:19,22 53:14 54:12 56:5 59:3 66:11 innovative [2] 43:5 60:23 Innovus [4] 44:13 45:1 68:10 69:3 install [1] 51:16 installation [2] 56:23 69:13 installed [6] 42:24 43:3 43:11 45:2 58:20 64:21 installing [1] 42:13 instances [1] 11:14 institutions [1] 39:12 insulation [4] 24:15 25:23,25 27:14 integrated [1] 67:6 integrating [1] 66:17 integration [2] 51:20 70:22 intentioned [1] 39:4 interest [1] 64:4</p>	<p>interested [2] 65:18 75:9 interesting [3] 57:16 62:10 67:19 interests [1] 36:24 intriguing [1] 60:22 introduce [2] 32:6 50:1 introduced [1] 48:13 introduces [1] 32:3 Inuit [2] 20:8 31:19 Inukshuak [1] 33:4 inverters [1] 60:3 investment [4] 16:8 42:3 49:11 72:12 investments [1] 15:10 involve [1] 33:11 involved [4] 31:20 33:14 34:7 43:11 involvement [1] 32:9 island [2] 43:7 74:16 Islands [1] 72:6 isolated [5] 15:5 20:4 32:11 39:25 68:18 isolation [1] 72:14 issue [1] 27:4 issues [14] 4:6,14 5:6,9 5:10,12 6:17 18:24 19:5 27:8,10,11 41:16 65:13</p> <hr/> <p style="text-align: center;">-J-</p> <p>jackets [1] 47:3 job [1] 75:2 John's [5] 2:25 4:1,23 78:7,10 Johnson [9] 28:11,12 68:4,5,6,14 69:1,14,19 joke [1] 71:24 judgment [3] 10:17 11:3 74:7 judicious [1] 50:11 Judy [2] 78:2,12 jump [1] 30:17 June [1] 34:24 jurisdiction [2] 68:19 73:20 jurisdictions [2] 42:11 52:24</p> <hr/> <p style="text-align: center;">-K-</p> <p>K [1] 2:22 keep [2] 16:7 77:3 keeps [1] 9:17 key [4] 6:20 59:24 61:6 71:4 kilowatts [2] 66:1,3 kind [8] 2:9 5:11 10:4 14:24 34:15 38:6 49:22 64:14 kinds [1] 66:11 knocking [1] 72:21 knowing [1] 58:23 knowledge [1] 62:15</p>	<p>KRG [1] 33:2</p> <hr/> <p style="text-align: center;">-L-</p> <p>Labrador [32] 2:12 8:13 10:20 14:5 18:13,25 19:3 20:3,9,17 22:13 23:5 25:11 37:5 38:12 40:13 45:8,20 46:14 53:5,23 53:25 56:9,10 57:15 72:9 73:8 74:11 76:13 78:4,7 78:10 Lac [1] 33:15 ladder [3] 48:3,5,6 ladders [1] 48:10 ladies [1] 31:11 Lake [4] 33:15 42:15,20 57:1 land [1] 27:9 Lands [2] 4:4 5:4 large [2] 41:5 42:16 largely [1] 64:2 larger [1] 59:9 largest [1] 50:22 last [13] 14:2 15:11 31:11 31:14 32:13 38:19 40:25 42:10 56:12 59:25 64:8 65:17 71:1 lately [1] 35:5 lead [1] 65:13 leading [1] 59:16 learn [1] 56:17 learned [1] 3:2 leave [4] 23:11 35:23 38:10 74:6 led [3] 42:10 49:4 72:23 left [2] 28:2 33:24 legal [2] 3:22 73:19 legislation [1] 38:15 Leo [1] 3:19 less [1] 72:17 level [1] 53:11 Liard [1] 57:1 life [3] 11:3,7 23:7 limited [3] 10:15 15:9 65:12 line [6] 6:21,22,24 17:13 31:3 49:23 lines [3] 19:13,14 64:15 link [1] 41:22 linkage [2] 36:7 37:16 links [1] 73:4 liquid [1] 64:14 list [1] 60:7 listed [1] 7:9 livelihoods [1] 74:24 lives [2] 4:21,23 living [6] 8:5,6,7 11:20 22:12 28:2 load [6] 48:8,14 60:10 61:18 67:13 71:7 local [5] 49:17 54:8,24 55:4,11</p>
---	---	---	--	---

located [2] 3:17 63:5	72:7 74:4	23:23 57:14,17 70:3	55:21,24	NWT [1] 53:8
logistical [1] 62:13	means [6] 7:4 11:8 21:22 21:23 63:9 78:8	Moss [2] 78:2,12	newer [1] 43:5	<hr/> -O- <hr/>
logs [1] 64:13	measure [1] 36:17	most [18] 2:20 5:9 7:25 8:1,19 9:2 10:22 12:15 12:17,21 13:25 14:8 22:7 23:8 24:24 47:19 53:6 56:15	Newfoundland [31] 10:20 18:25 23:5 24:25 25:1,11 37:5 38:12,24 40:13 41:15 45:7,20 46:4 46:13 53:5,23,25 54:20 55:22 56:8,10 57:15 72:9 72:22 73:8 74:10 76:13 78:4,7,10	O'Brien [4] 28:7,8 67:25 68:1
longer [2] 49:25 76:4	medical [1] 8:16	mostly [1] 34:11	NEWMAN [1] 28:20	obvious [1] 59:10
longest [1] 4:24	medium [3] 44:8 76:1 76:18	motor [7] 48:16,22,23 48:23 62:20 71:5 73:1	next [10] 17:4 19:3 30:11 41:9 44:19 59:19 61:20 66:13 69:13 75:20	occur [2] 38:18 76:6
look [31] 10:13 11:18 12:6 16:18 19:21 23:2 36:3 39:14 40:5,6 41:15 41:17 42:23 43:1,8,24 44:3,12 45:6 47:11 50:21 51:23 53:13,20 57:3 59:15 60:8 67:19 70:25 72:14 76:21	meet [1] 3:19	motors [4] 44:22 61:8 62:21 73:11	nice [1] 63:1	occurred [1] 26:4
looked [5] 41:12 47:24 60:1 65:9,21	mega [4] 18:17,20 19:3 19:18	mould [2] 27:10,15	night [7] 64:13 71:11,11 71:15 72:18,18 73:1	occurs [1] 59:8
looking [22] 10:22,23,24 15:3,16 16:9,21 32:6 33:16,18 40:14 50:2 55:15 66:12 67:14 69:12 70:12 72:1,5,6 73:5,13	megawatt [1] 33:5	move [2] 5:23 37:12	nine [1] 50:3	off [14] 8:1 10:25 21:14 21:21 22:5 33:13 36:16 53:10,14 54:12 55:20 56:3 60:9,10
looks [4] 9:9 38:6 76:1,4	megawatts [3] 65:24,24 66:4	moved [1] 3:5	non [1] 76:24	offer [1] 45:17
lose [1] 14:14	member [1] 4:22	moving [1] 52:24	non-capital [1] 62:6	offered [1] 27:21
loss [2] 62:18 65:13	members [3] 3:18 4:24 12:22	Ms [55] 1:5,14,18,20,25 2:5 3:19 5:19,21 6:2,6 6:10,16,22 11:23 14:11 17:24 18:6 21:6 23:9,13 29:1,5,10,13,15,19,23 30:2,10,15,16,17,21,23 30:25 32:14,19 33:25 35:3,7,9,11,13,18 46:1 46:19 47:13 50:16 52:14 54:15 55:18 57:4 77:8 77:13	none [1] 61:10	offering [2] 34:1,15
love [1] 19:13	mention [1] 11:24	MUN [1] 2:24	nor [1] 74:11	official [1] 3:13
low [3] 11:21 25:15 27:17	mentioned [10] 46:17 53:18 57:18 59:5 60:14 62:15 65:11 70:3,7 76:3	Muskrat [6] 13:20,22 13:23 18:2,10 20:23	north [21] 2:12,21 4:9 5:7 8:13 13:24 14:4 18:13 20:3,9,16 21:1 22:13,18 25:12 40:1 41:20 46:15 47:20 52:4 61:4	officials [2] 3:11,15
lower [6] 7:17 32:8 38:7 47:16 52:3 75:21	met [3] 46:13,15 70:4	must [2] 19:21 76:24	northerly [1] 13:25	offline [1] 74:10
lumber [2] 52:3 64:2	meteorological [1] 57:23	<hr/> -N- <hr/>	northern [15] 21:18 22:1 32:20,22,25 33:10,14 34:3,4,12 41:5 43:8,9 48:2 53:18	offset [1] 68:23
<hr/> -M- <hr/>	metering [4] 54:1,16,21 55:16	Nain [24] 2:21 3:1,14 7:9 10:14 12:12 14:1 15:11 27:6 40:6 46:11 50:21 51:4,9 52:11 54:2,8 55:5 57:23,25 58:5,14,14 59:8	Northern's [1] 21:24	often [2] 14:15 31:17
Madam [3] 1:23 30:9 77:6	meters [1] 63:19	name [1] 2:2	Northwest [10] 2:14,16 41:4 42:15,20,22 53:17 56:13 57:2 69:5	oil [8] 9:17,20,22,23 11:6 13:2,4 21:19
main [3] 35:19 63:7 70:24	methylmercury [1] 18:21	named [1] 35:6	note [4] 37:7 53:4,19,24	once [1] 39:21
maintain [2] 18:16 26:9	Metis [1] 31:19	national [1] 56:1	noted [4] 36:6 51:2,24 56:10	one [43] 3:13,13 4:8 6:1 6:3 15:22 16:5 18:21 22:15,19 27:4 32:3 34:21 37:23 45:12,12 49:25 51:21 53:9 56:18,20,21 58:10,15,15,21 59:16 60:2,9 61:8,17 62:22,25 65:17,21 67:2,18 70:15 70:21 72:3,3 74:19 75:9
maintaining [1] 23:6	mic [2] 5:23,23	Nations [1] 31:19	Nova [1] 19:20	ones [7] 12:21 14:3 22:3 26:14 46:16 49:9 76:2
major [9] 15:25 19:3 24:14,15 25:22 32:12 39:16 43:12 56:11	middle [2] 17:3 63:6	natural [6] 4:4 5:4 52:6 53:11,12 54:19	November [2] 78:5,11	ongoing [1] 50:5
majority [2] 24:7 25:14	might [9] 11:16 17:18 48:17 56:24 59:2,9,10 70:14 71:24	nature [4] 34:8 65:7,8 75:11	now [30] 2:1 3:18 4:3,9 6:17 9:3 11:24 15:15 16:7 23:11 34:21 35:19 41:1 42:18 45:1 50:1 51:10 52:15 60:5 63:20 64:16,18,23 66:23 69:17 71:10,15 76:15 77:11,14	Ontario [5] 33:10 41:5 53:7 71:10,10
Makivik [1] 33:1	mind [1] 72:4	near [1] 58:15	November [2] 78:5,11	onto [1] 10:11
Makkovik [8] 7:9 10:14 12:7 15:24,25 40:7 50:25 52:12	mine [4] 17:2 42:23,25 43:9	nearby [1] 63:17	now [30] 2:1 3:18 4:3,9 6:17 9:3 11:24 15:15 16:7 23:11 34:21 35:19 41:1 42:18 45:1 50:1 51:10 52:15 60:5 63:20 64:16,18,23 66:23 69:17 71:10,15 76:15 77:11,14	open [4] 4:11 13:11 23:11 50:14
manage [2] 46:14,18	mining [1] 4:5	necessities [1] 11:7	note [4] 37:7 53:4,19,24	operate [2] 44:14 51:3
management [4] 45:24 48:20 71:8 72:8	Minister [21] 1:8 2:1 4:3 5:1,2,3,4,22 6:11 17:25 23:21 28:5 36:6,16 37:15 38:10 51:2,24 54:19 73:25 74:18	necessity [1] 14:7	noted [4] 36:6 51:2,24 56:10	operates [1] 44:23
managers [1] 46:14	minus [2] 9:13,13	need [20] 1:13,17 11:12 11:13 16:17 17:14,16,21 17:21 19:11 20:14 24:2 26:24 27:24 37:12 51:3 55:2 61:3,5 72:25	Nov [1] 19:20	operating [1] 43:19
mandate [1] 38:15	minute [3] 44:24,24 52:23	needed [4] 17:11 44:21 54:6 73:3	November [2] 78:5,11	operation [1] 43:1
Manitoba [9] 33:14 39:10,10,11,14,23 42:7 53:7 56:18	minutes [2] 30:3 44:19	needs [7] 20:22 26:20,21 27:2,21 36:4 74:19	now [30] 2:1 3:18 4:3,9 6:17 9:3 11:24 15:15 16:7 23:11 34:21 35:19 41:1 42:18 45:1 50:1 51:10 52:15 60:5 63:20 64:16,18,23 66:23 69:17 71:10,15 76:15 77:11,14	operations [2] 56:16 69:9
marks [1] 51:5	missing [2] 7:12,14	negotiation [1] 69:17	Nov [1] 19:20	operator [2] 46:16 58:17
matched [1] 71:4	mode [1] 42:4	negotiations [1] 33:8	November [2] 78:5,11	opinion [1] 70:11
material [1] 40:11	modelling [1] 56:22	net [4] 54:1,16,20 55:16	now [30] 2:1 3:18 4:3,9 6:17 9:3 11:24 15:15 16:7 23:11 34:21 35:19 41:1 42:18 45:1 50:1 51:10 52:15 60:5 63:20 64:16,18,23 66:23 69:17 71:10,15 76:15 77:11,14	opportunities [8] 24:17 36:8,11 43:4 44:5 45:10 70:25 76:2
matter [2] 53:15 78:3	money [8] 8:3 25:4 27:25 28:1 38:4 39:20 44:21 49:13	new [5] 42:2 54:2 55:14	note [4] 37:7 53:4,19,24	opportunity [14] 38:21 43:20,24 44:2,12 45:4 47:2,3,5,7 56:17 59:11 60:14 75:1
matters [2] 1:4,6	monitored [1] 58:21		noted [4] 36:6 51:2,24 56:10	order [1] 59:22
may [12] 7:11,16,21 25:24 27:21 42:2 47:1 50:2,2 64:11 66:16 72:25	monitoring [3] 40:17 50:6 58:16		Nov [1] 19:20	organizations [1] 37:9
mayor [2] 3:14,15	month [1] 38:4		November [2] 78:5,11	oriented [1] 75:12
mean [8] 38:1 40:23 49:25 59:15 61:11 66:10	monthly [1] 10:24		now [30] 2:1 3:18 4:3,9 6:17 9:3 11:24 15:15 16:7 23:11 34:21 35:19 41:1 42:18 45:1 50:1 51:10 52:15 60:5 63:20 64:16,18,23 66:23 69:17 71:10,15 76:15 77:11,14	ourselves [1] 4:11

38:19 outset [1] 30:24 outside [3] 8:18 18:17 64:11 oven [2] 13:11,12 overall [4] 8:8 11:19 23:2 38:22 overcome [1] 26:19 own [2] 2:7 54:25 owner [2] 39:13 54:22 owners [2] 25:6 44:9 OXFORD [1] 28:22	60:4 61:12,19 68:22,24 perfectly [1] 42:25 performance [1] 42:9 perhaps [2] 5:24 72:19 period [3] 32:13 49:21 76:25 person [2] 27:17,18 personal [1] 2:7 perspective [6] 7:5 16:17 18:11,12 32:1,1 phone [1] 8:11 phonetic [2] 51:6 73:12 Phys [1] 2:25 physical [1] 69:12 picked [1] 68:7 picture [5] 5:13 8:8 23:1 23:3 74:8 piece [1] 76:20 pigment [1] 71:23 pipe [1] 25:25 place [2] 49:7 55:15 places [1] 38:19 plan [13] 36:19 39:19 40:5 48:19 49:15 51:23 64:7 73:15 75:10,11 76:10,11,16 planning [7] 39:7 40:2 41:25 49:13 63:4 70:23 74:13 plans [1] 17:13 plant [17] 15:25 16:2,3,5 17:1,3,5,7,9 19:24 21:21 21:22 63:19,21 66:23,24 70:22 plants [22] 14:19 15:9 17:15,16 18:15 23:6 46:6 46:20,25 47:4 51:3 62:16 63:1,5 65:6 70:6,8,15,17 70:24 72:14 73:9 play [3] 8:12 32:5 61:16 pleased [2] 31:11 66:9 podium [1] 29:12 point [9] 18:5 37:13 38:10 40:9 41:18 45:4,4 54:11 69:10 pointed [1] 38:9 pointing [1] 52:23 points [2] 5:15 6:20 policies [1] 4:17 policy [9] 38:15 54:2,9 54:16,21 55:7,15,16,20 pollutants [2] 18:20 19:7 portfolio [1] 4:3 portions [1] 16:3 positive [2] 39:5 45:22 possibility [1] 63:22 Postville [6] 7:10 12:7 52:2,8,13 64:1 potential [20] 40:18,19 40:21 41:24 43:17 48:21 50:23,25 51:18 52:7,9 53:21 54:14 59:4 60:8 64:3 65:5 66:15 70:20	73:12 potentially [9] 37:2 42:5 45:9 50:24 51:20 52:10 52:11,12 76:3 Pottle [1] 4:21 poverty [1] 20:21 power [77] 14:13,15,19 14:23 15:1,2,3,5,8,12,15 15:22 16:6,10,11,16,19 16:22,24,25 17:1,3,5,7,9 17:15,21,22 18:5,10,15 18:24 19:4,5,13,14,19 19:20,22,24 20:15,23 21:21,22 23:6 31:23,24 32:5 33:6,19 38:16 40:24 41:7,11,22 42:19 44:13 44:18 47:24 48:9 51:11 51:23 54:8 55:2,10,11 55:14 57:3 62:22 63:24 63:25 68:10 69:5 70:19 72:14,22 76:2 practices [1] 48:24 preliminary [2] 1:4,6 premiers [2] 53:11 55:25 present [1] 5:12 presentation [4] 1:8 57:17,19 77:14 presented [1] 76:12 President [1] 3:19 pressures [1] 74:15 presumably [1] 77:11 presume [2] 1:24 77:6 pretty [3] 18:18 44:15 58:24 prevalent [1] 37:20 price [3] 10:1 21:24 71:16 priorities [1] 70:11 private [2] 24:12 43:1 privy [1] 40:12 proactive [2] 36:3 45:5 probationary [1] 76:25 problem [2] 15:8 63:15 process [6] 46:18 49:2,3 56:7 72:20 74:13 processes [1] 16:1 program [11] 24:12 25:8 27:1,14,16 39:3,4,9 47:9 48:11 49:7 programming [1] 50:10 programs [9] 24:9 25:2 25:7,16,24 26:14,16 27:18 39:23 project [9] 7:23,23 18:17 18:20 19:3,18 33:5,16 60:16 projection [1] 61:5 projects [3] 24:15,17 50:12 promotion [1] 72:15 pronouncing [1] 2:2 property [1] 42:17 proposed [1] 76:17 proposes [1] 75:19	proposing [1] 49:15 proud [3] 20:7,8,10 proved [1] 60:5 provide [2] 38:16 51:14 provided [1] 52:18 province [17] 7:18 9:9 19:19 20:10,13 31:16 38:8,16 43:16 45:8,20 45:25 47:11 49:18,24 74:11 76:14 provinces [1] 56:15 provincial [6] 17:19 27:13 39:13 42:6 55:3,6 provision [1] 53:12 proximity [1] 12:9 PUB [3] 6:12 55:7 74:25 public [7] 36:23 37:6,20 45:21 76:13 77:14 78:6 purchase [1] 12:16 purpose [1] 34:5 put [18] 7:4 10:11 11:13 13:6 15:12,14,18 17:13 20:21 34:16 48:16 54:4 55:14 60:7 62:23 64:12 64:12,18 puts [3] 22:22,24 55:10 putting [4] 21:3 23:4 27:14 67:9 PVC [2] 64:15,21 PVCs [1] 64:18	ray [1] 42:16 rays [1] 60:2 read [1] 6:19 real [7] 27:8,10,11 45:14 62:13 64:4 71:25 realistic [1] 20:15 realities [1] 36:14 reality [3] 37:25 41:19 64:25 realize [1] 10:15 really [10] 9:9,11,14,21 24:2 26:13 37:15 66:12 73:12 74:19 reason [1] 63:2 reasonable [1] 9:10 reasonably [1] 63:1 received [2] 52:21 59:22 recently [2] 46:12 52:21 recognize [1] 43:14 recovering [1] 62:17 recovery [1] 73:10 recreation [4] 3:6 5:1 63:18,22 reduce [12] 32:7 36:8,11 39:1 40:8 44:25 55:12 59:18 61:6,10,18 74:15 reduction [2] 68:23,24 refer [1] 7:8 referred [1] 55:20 referring [3] 25:17 26:22 27:19 reflected [1] 37:4 regard [1] 26:8 regards [2] 68:9 70:18 region [17] 32:25 36:15 37:18 38:7,13 40:15 44:9 45:19,23 47:11 50:7 51:19 53:4 65:6 66:14 74:22 76:6 regularly [1] 44:15 related [2] 37:17 38:25 relates [2] 7:5 34:4 relation [2] 24:8 46:22 relative [2] 46:25 68:17 reliability [2] 32:5 42:9 reliable [3] 16:20 19:25 45:13 relief [1] 8:24 rely [1] 12:22 relying [4] 12:25 13:1,2 13:5 remarks [1] 59:5 remote [14] 32:11 33:12 33:18,23 41:6 42:11 45:2 48:2,4 56:2,16,19 58:23 73:2 renewable [20] 31:21 36:12 39:2 41:12 42:8 43:24,25 47:14,24 48:5 49:19,24 50:10,12,19 51:11,19 53:20 54:24 76:2 renewables [7] 47:6,7	
-P-					
page [3] 24:1 31:2,3 paid [2] 39:21,22 panels [4] 41:2,8 54:4 60:3 pardon [1] 29:9 parents [2] 2:15 11:16 part [24] 6:13 7:22,23 9:4 11:2 20:10,12 35:20 39:19 41:19 42:5 43:12 44:6 47:9 50:5 51:10,22 52:3 53:19 55:25,25 64:7 74:18,25 participate [1] 64:5 particular [4] 6:24 11:16 31:14 46:6 particularly [2] 45:15 46:10 parties [1] 76:16 partner [1] 59:19 partners [1] 50:15 partnership [3] 44:4 49:1 59:20 parts [3] 19:19 39:5 49:12 passed [1] 21:25 past [2] 53:3 64:16 patterns [1] 72:25 pay [15] 10:25 11:4,9,10 21:15 22:3 26:23 39:11 42:3 49:21 50:2,4 62:8 64:22 71:12 payers [5] 43:16 44:8 49:23 54:5 74:16 paying [4] 8:10 14:3 22:4 22:6 PAYS [1] 39:11 peak [5] 48:8,14,15 60:10 71:7 people [40] 2:20 3:15 4:11,11,17 7:25 8:17,19 8:21 9:15 10:1 11:8 12:23 13:13 14:8,23 17:23 20:14,25 21:15,16 23:8 25:6,12,14,15,18 26:2,12,21 27:24 43:6 49:14 51:25 55:13 72:1 72:5,8,23 74:22 per [2] 38:3,3 percent [12] 33:6 41:2,8 42:19 43:14 45:1 59:18					
			-Q-		
			Q.C [13] 28:12,14 68:5,6 68:14 69:1,14,19,24 70:1 70:2 73:18 75:3 Quebec [6] 32:25 33:9,9 43:10 53:9,19 questions [14] 23:10,25 25:21 28:4,9,13,15,19 28:21 57:6 67:21 68:2 69:20 75:4 quicker [1] 62:8 quickly [3] 52:24 53:1 77:16 quite [11] 7:14 10:3,6,8 11:1 12:11,13 14:9 38:19 61:17 65:18		
			-R-		
			R [1] 60:16 racks [1] 60:3 raised [1] 2:18 Ramea [2] 43:7 60:15 range [1] 68:22 rarely [1] 17:23 rate [22] 7:13,20 10:19 13:6 19:1 20:19 21:8,12 22:5,5,22 23:4 43:15 44:7 45:15 49:23 50:2,4 54:5 74:16,22 78:4 rates [4] 37:16 38:7 45:25 53:2 rather [2] 61:8 71:14		

47:22 61:16,22,25 73:7 renewal [1] 40:15 renovate [1] 39:15 renovations [1] 24:14 replace [1] 66:13 replacement [2] 33:4 66:24 replacing [2] 33:6 49:3 report [2] 6:11,12,17 6:20,22 31:2,4 34:21,22 34:25,25 35:20,21 36:13 36:22 37:4 40:12,23 41:14,17 74:18 representatives [2] 56:14 70:4 represents [1] 61:12 require [2] 42:2,2 requirements [2] 3:22 42:19 requires [9] 48:19 49:4 49:5,13 50:9 62:6 70:21 71:6 72:12 requiring [1] 66:24 reserve [1] 52:4 residence [1] 39:7 residents [7] 24:8 37:22 38:2,23,24 45:23 54:5 Resources [4] 4:4 5:5 52:6 54:20 respect [4] 34:12 50:18 70:16 73:24 respectful [1] 74:2 respects [1] 38:14 response [2] 46:12 70:25 responsive [2] 44:17,24 rest [3] 7:18 61:13 73:13 result [1] 41:3 RESUME [1] 30:7 retrofit [1] 27:13 review [1] 7:2 reviewed [1] 36:19 revisions [1] 36:22 right [17] 2:2 3:18 4:3,8 9:3 15:15 17:3,4 51:10 58:8 59:14 65:3,15 66:20 67:16 69:20 77:14 Rigolet [12] 2:11,13,19 2:22 3:13,24 7:10 12:7 17:2 21:17 40:7 63:5 rises [2] 9:11 37:23 risk [1] 55:13 River [2] 2:14,16 robust [2] 32:7 60:5 role [2] 35:25 36:17 rooted [2] 45:11,18 run [2] 18:16 25:3 running [1] 3:9 rural [3] 38:24 47:17,20	Sarah [1] 3:19 Saskatchewan [1] 53:8 sat [1] 74:7 save [3] 27:25 39:11,19 saving [1] 26:7 says [1] 54:22 scale [2] 41:6 47:7 scarce [1] 12:13 scheduled [1] 77:15 Scot [1] 71:22 Scotia [1] 19:20 Scotsman [1] 71:19 Scottish [1] 71:13 second [2] 48:23,23 secondly [2] 70:15 73:6 seconds [1] 59:22 secured [3] 51:6,13 54:3 security [7] 36:18 40:4 49:15 51:23 64:7 73:15 75:10 see [25] 7:8 8:17,21 11:11 12:4 13:11,12 17:5,5,6 18:22,23 19:2 21:1 37:10 38:6 40:3,4,7 41:5 42:16 43:17 46:23 67:8 71:23 seeing [4] 7:16 10:9 11:22 76:21 seem [1] 58:20 self-evident [1] 6:18 sell [1] 55:2 sense [3] 42:22 45:14 47:10 served [1] 5:1 service [5] 8:25 9:1 34:7 34:9,17 services [2] 22:25 26:3 serving [1] 4:24 set [1] 22:9 seven [2] 33:5 61:20 seventh [2] 48:4,6 several [1] 69:4 shall [1] 77:3 share [3] 51:4 66:9 74:23 sharing [3] 27:16 53:13 56:16 shaving [3] 48:8,14 71:7 shed [1] 64:11 ship [1] 63:9 Shiwak [29] 1:9,10,20 2:2,3,4,10,11 5:22,25 6:4 6:8,14 7:7 12:3 14:17 17:25 18:3,8 21:10 23:17 23:21,22 24:4,19,23 26:6 28:5 73:25 short [3] 50:7 75:19 76:17 shorter [1] 49:20 shortly [1] 36:25 shot [1] 3:9 shut [2] 60:9 71:5 shutting [1] 73:1 side [3] 37:24 64:24 72:16	sign [1] 53:9 signed [2] 53:10,24 significant [1] 23:7 simple [1] 41:18 simply [8] 10:24 11:8 13:6 23:4 26:17,23 48:22 49:3 Simpson [1] 57:1 sit [6] 3:16,21 4:10 6:5 18:12 20:14 site [3] 63:14,14 69:6 sites [1] 58:14 sits [3] 17:3,9 18:17 situation [1] 41:21 six [6] 3:19 40:22,25 42:10 48:7 50:3 size [3] 3:12 42:17 65:20 sized [2] 66:8,8 slabs [1] 64:17 slightly [1] 68:21 small [13] 2:19 22:10,14 22:14,18,23 29:11 38:4 47:7 51:1 52:11 54:23 64:15 smaller [1] 64:10 smoke [1] 17:5 snowmobile [1] 12:14 snowmobiles [1] 12:17 social [2] 49:2 74:20 Society [1] 51:7 solar [26] 31:23 40:18,24 41:2,7,7,7,11 42:16 50:1 50:23 51:7,8,11,14,17 52:9 54:4 55:10 57:3 59:14 60:1,2,4,7 76:3 sold [1] 54:7 someone [2] 72:17,21 sometime [1] 66:13 sometimes [3] 20:7 38:17 63:5 somewhat [1] 65:11 somewhere [2] 21:14 63:8 soot [1] 17:6 sorry [4] 29:8 30:1 35:10 66:3 sort [8] 26:1 34:5,10 46:20 47:16 59:9 67:13 69:7 sound [2] 60:20 78:8 sounds [1] 76:20 source [3] 12:2,6 55:11 sources [2] 16:21 19:22 space [2] 37:23 62:25 speak [2] 5:22 11:25 speaking [2] 11:25 53:16 specific [4] 53:12 58:4 75:19 76:1 specifically [1] 55:4 specifics [1] 76:17 speed [9] 44:15,22 59:1 65:19 66:15,17,18 71:2	73:11 spheres [1] 31:12 St [5] 2:25 4:1,2,3 78:7,10 stacks [1] 17:6 stakeholder [1] 36:24 standard [1] 76:9 start [9] 22:18 23:16 31:3 31:5 42:12 43:23 54:10 56:20 76:9 start-up [1] 22:24 start-ups [1] 22:14 state [2] 46:21 47:1 static [1] 37:13 station [1] 58:15 status [1] 76:25 staying [1] 8:21 step [6] 48:4,5,6,12,21 48:24 steps [3] 13:14,14 48:9 still [5] 10:3 34:9 45:11 61:3 64:2 storage [11] 41:7,9 50:1 51:18 59:10,14,16,21,24 60:5 76:3 store [2] 8:9 21:18 storms [1] 14:25 strategic [2] 75:11,18 strategy [4] 53:11,13 56:1 76:10 stress [2] 37:15 38:11 strictly [1] 73:9 string [1] 48:16 strokes [1] 50:7 structure [1] 60:11 submission [2] 5:14,16 subsidize [1] 17:17 subsidy [1] 38:25 substantive [1] 50:10 success [1] 62:12 such [1] 12:8 summary [1] 45:16 summer [3] 9:7 16:1 43:3 summertime [2] 8:24 20:5 supplement [1] 16:10 supplied [1] 20:23 supply [6] 14:13 16:4,5 48:20 51:3 71:4 support [2] 51:15 54:4 supports [1] 44:4 suppose [1] 59:10 survey [1] 7:22 sustainable [3] 32:2 34:3,11 sustains [1] 22:17 switch [2] 22:2 29:12 switched [1] 21:19 switching [1] 10:10 sworn [5] 1:13,17,20 30:12,14	system [24] 33:19 38:22 38:22 39:10 43:7,10 44:6 44:20,23 50:1 51:14 55:10 58:14,21 59:2,21 60:22,24 61:14 66:13 67:6,9 73:5,13 systemic [1] 73:2 systems [31] 26:1 31:21 31:22,23 32:7 33:20 38:18 39:17 41:2,6 43:18 44:3,11,13 45:12,25 47:8 51:8 55:1,14 58:19 61:4 61:13 66:16,18 67:5 71:2 71:2,3 72:8,10
-T-				
			table [1] 11:14 tabled [1] 40:5 takeCHARGE [1] 24:11 takes [2] 49:10,25 talks [2] 6:24 31:4 tapping [1] 73:12 target [1] 59:10 teacher [1] 2:25 teaching [2] 3:1,3 technical [2] 44:14 49:3 technically [1] 66:16 technologies [3] 43:6 43:25 74:14 technology [5] 53:1 56:21 60:5 64:18 68:10 ten [2] 31:2,4 tenants [2] 24:18,20 term [6] 36:12 44:8 75:19 76:1,4,18 terms [7] 32:4 33:22 44:14 45:16 53:1 73:20 73:21 territories [9] 41:4 42:16,20,23 53:18 56:13 56:15 57:2 69:5 territory [2] 31:17 33:22 Tesla [2] 59:19,20 test [1] 49:20 testified [1] 69:3 testimony [8] 6:13 26:4 34:16 40:10 45:17 51:5 74:8,17 testing [2] 57:22,23 thank [20] 2:1 6:7 10:1 23:20 28:4,13,19 35:25 52:20 54:19 57:11 67:20 67:23 69:20 75:4 76:21 77:3,6,9,18 thankful [1] 14:20 therefore [2] 38:23 62:24 thermostat [1] 25:23 thinking [1] 11:19 third [1] 48:22 Thirdly [2] 44:2 49:6 thought [5] 20:14,22 29:8,18 35:14	
-S-				
sacrifice [1] 11:5 Salluit [1] 43:8				

<p>three [10] 42:24,24 43:3 46:9 47:1 48:17 61:8 64:12 70:7,8</p> <p>through [12] 23:12 24:25 25:4 27:13 35:21 36:9 36:12 39:1 44:12 46:11 69:9 74:7</p> <p>Thursday [2] 77:12,15</p> <p>tick [1] 10:25</p> <p>tilt [1] 51:4</p> <p>times [3] 3:20 12:24 57:19</p> <p>today [5] 4:6 5:11 15:17 37:3 51:4</p> <p>together [2] 40:9 56:7</p> <p>too [8] 8:20,23 9:7 26:17 26:18 30:17 33:24 38:9</p> <p>tools [1] 42:2</p> <p>top [2] 60:7 70:11</p> <p>Torngat [8] 25:1,3,5,6,6 25:8,10,15</p> <p>total [1] 61:13</p> <p>touch [1] 17:25</p> <p>touched [1] 62:10</p> <p>Tourism [1] 5:2</p> <p>traditionally [1] 68:18</p> <p>transcribed [1] 78:7</p> <p>transcript [1] 78:3</p> <p>transmission [1] 33:13</p> <p>transportation [2] 8:14 9:4</p> <p>travel [6] 3:20 4:1 8:15 8:16,23 12:13</p> <p>travelling [4] 3:24 4:9 8:17,18</p> <p>treated [2] 20:11,12</p> <p>tried [2] 6:23 52:20</p> <p>truck [1] 20:6</p> <p>true [1] 78:2</p> <p>truly [1] 74:2</p> <p>try [5] 5:12,13,14 8:4 32:2</p> <p>trying [6] 5:15 23:1 27:23,25 28:1 40:5</p> <p>turbines [1] 42:25</p> <p>turbot [1] 16:1</p> <p>turn [5] 1:23 24:2 48:22 71:10,15</p> <p>twice [1] 42:17</p> <p>two [28] 3:14 4:24 7:12 7:14 15:4 32:18 34:20 34:21 36:3,7,21 43:23 45:13,18 47:22 49:21 56:11 58:14 59:19,25 61:8,9 67:13,14 70:14 70:21 75:20 76:7</p> <p>two/three [1] 41:9</p> <p>typical [5] 2:20 4:19 14:21 27:7,17</p> <p>typically [8] 7:19,25 8:17 9:24 12:4 13:9 21:11 22:7</p>	<hr/> <p style="text-align: center;">-U-</p> <hr/> <p>Uh-hm [1] 61:1</p> <p>under [3] 4:7 38:15 77:3</p> <p>understand [11] 1:3 16:8 17:11,16 21:5 24:11 24:14 25:16 26:15 34:19 58:22</p> <p>understood [1] 34:14</p> <p>undertaking [1] 18:1</p> <p>unemployment [2] 7:13 7:20</p> <p>unintelligible [1] 67:18</p> <p>unique [1] 74:19</p> <p>units [4] 65:20 67:2,13 68:16</p> <p>university [1] 2:23</p> <p>unless [2] 8:15,22</p> <p>Unlike [1] 17:18</p> <p>up [26] 3:7 4:11 5:8 6:22 9:18 10:12 13:4,5,25 14:3,4 21:24 22:9,18 23:4 26:16 27:3,3 43:18 46:3 53:10 55:10 65:24 68:7,24 69:10</p> <p>upgrade [2] 15:12 46:18</p> <p>upgrades [1] 46:12</p> <p>used [4] 10:3 39:20 54:16 64:1</p> <p>using [7] 9:15 40:8 44:18 44:20 62:18 64:25 68:18</p> <p>usually [1] 4:7</p> <p>utilities [6] 36:23 37:6 45:21 69:4 76:14 78:6</p> <p>utility [8] 39:13,18,20 42:5 45:24 47:10 49:18 55:6</p> <p>utilizing [1] 70:9</p> <hr/> <p style="text-align: center;">-V-</p> <hr/> <p>Valley [1] 70:5</p> <p>valuable [1] 76:20</p> <p>value [1] 67:8</p> <p>variable [8] 44:22 59:1 65:19 66:15,17 71:1,16 73:11</p> <p>various [2] 36:24 40:14</p> <p>vectors [1] 59:25</p> <p>versus [2] 71:11 72:2</p> <p>VICE-CHAIR [5] 28:18 75:6,8,15 76:19</p> <p>view [2] 18:5 61:17</p> <p>Virgin [1] 72:6</p> <p>virtually [2] 31:16 39:11</p> <p>visited [4] 46:2,7,9 70:6</p> <p>visiting [1] 69:8</p> <p>Voisey's [1] 3:6</p> <hr/> <p style="text-align: center;">-W-</p> <hr/> <p>wages [1] 21:17</p> <p>wait [1] 29:6</p>	<p>waiting [2] 36:21 54:9</p> <p>walk [1] 13:9</p> <p>walls [1] 13:15</p> <p>waste [2] 63:20 73:10</p> <p>water [5] 19:7 26:1 47:3 51:14 62:25</p> <p>waterjacket [1] 70:19</p> <p>waterjackets [1] 62:23</p> <p>ways [4] 16:12,18 19:22 70:14</p> <p>weather [1] 9:11</p> <p>weigh [1] 21:2</p> <p>well-off [1] 12:21</p> <p>wellbeing [1] 74:24</p> <p>WHALEN [5] 28:18 75:7,8,15 76:19</p> <p>wherever [2] 15:6 19:20</p> <p>whole [4] 45:24 72:15 74:8,16</p> <p>wholesale [1] 66:24</p> <p>wildlife [3] 4:5,12,14</p> <p>wind [22] 31:22 40:16 42:24 43:7,10,18 50:24 51:20 52:10 57:22 58:18 58:23,24 59:1,2,4,4,5,11 59:14 60:24 76:3</p> <p>windows [3] 24:15 25:23 39:16</p> <p>winter [3] 14:24 38:1 63:2</p> <p>wintertime [1] 20:4</p> <p>wise [1] 43:22</p> <p>within [14] 6:17 8:22 9:16,24 10:5,19,22 13:16 19:1,22 20:16 22:25 59:22 75:22</p> <p>without [4] 11:11 13:8 17:12 73:13</p> <p>witness [3] 29:6,20 30:11</p> <p>wondering [1] 57:17</p> <p>wood [26] 11:12,25 12:1 12:5,8,9,10,12,14,18,20 12:23,25 13:14,21,24,25 14:3,4,7,9 52:1 64:12,19 64:19,20</p> <p>word [2] 54:16 62:14</p> <p>workable [2] 32:4 37:1</p> <p>worked [4] 3:6 31:12,14 43:2</p> <p>works [2] 3:10 56:16</p> <p>world [2] 42:12 59:17</p> <p>wrapping [1] 25:25</p> <p>wrong [1] 26:18</p> <p>wrote [1] 47:23</p> <hr/> <p style="text-align: center;">-X-</p> <hr/> <p>Xstrata [1] 43:9</p> <hr/> <p style="text-align: center;">-Y-</p> <hr/> <p>year [13] 2:23 3:20 8:1 9:21,25 32:13 43:11 45:18 49:21 54:21 64:8</p>	<p>69:13 75:20</p> <p>year's [1] 45:18</p> <p>years [23] 15:12 31:11 31:14 32:18 36:3 40:22 41:1,9 42:10,24 47:2,22 49:22 50:3 53:3 59:19 61:20 64:23 66:14 68:13 68:15 70:9 77:1</p> <p>Yellowknife [1] 56:12</p> <p>yet [2] 41:17 55:17</p> <p>Young [35] 23:16,18,19 23:24 24:6,21 25:19 28:3 57:9,10,12,13,14 58:1,7 58:11 59:7 60:13,19,25 61:21 62:2,9 63:11 65:2 65:10,16,25 66:5,19 67:1 67:7,12,17 68:7</p> <p>yourself [1] 46:2</p> <p>Yukon [3] 33:21,24 53:8</p> <hr/> <p style="text-align: center;">-Z-</p> <hr/> <p>zero [1] 56:21</p>
--	---	---	--